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July 16, 2012

VIA EMAIL & CERTIFIED MAIL

Ms. Tamara Cameron
Branch Chief
U.S. Army Corps of Engineers
St. Paul District
180 5th St. East, Ste. 700
St. Paul, MN 55101-1678

RE: U. S. Steel's Response to U. S. Army Corps of Engineers' Request for Additional Information Regarding Minnesota Ore Operations' Tailing Basin

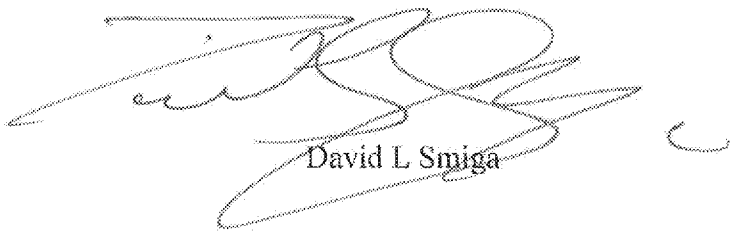
Dear Ms. Cameron:

On June 26, 2012, the United States Steel Corporation (U. S. Steel) met with representatives from the U.S. Army Corps of Engineers (USACE) to discuss U. S. Steel's position that wetlands in Minnesota Ore Operations' (Minntac) tailings basin are excluded from Clean Water Act (CWA) jurisdiction. U. S. Steel presented information regarding the construction and operation of the tailings basin and our position that the tailings basin and all activities associated with its operation are exempt from the CWA Section 404 permitting requirements. At that time, the USACE requested additional written information to support U. S. Steel's position. As such, U. S. Steel is submitting the attached information in response to that request.

U. S. Steel respectfully requests a follow-up meeting with the USACE to discuss this submittal prior to USACE issuing a jurisdictional determination.

Should you have any questions regarding this response or the attachments and figures, please contact me.

Very truly yours,



David L Smiga

Enclosures
(421020)

cc: Tim Smith, USACE (w/enclosures)
Steve Adamski, USACE (w/enclosures)
Kelly Urbanek, USACE (w/enclosures)
Jill Bathke, USACE (w/enclosures)
Tom Kelly, U. S. Steel (w/o enclosures)
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Lisa Zemba, U. S. Steel (w/o enclosures)
Peder Larson, Larkin Hoffman (w/enclosures)

United States Steel Corporation
Minnesota Ore Operations Minntac Tailings Basin
Section 404 Jurisdictional Determination Issue
July 16, 2012

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U. S. STEEL'S POSITION:

The area bounded by the perimeter dike of the United States Steel Corporation (U. S. Steel), Minnesota Ore Operations, Minntac (Minntac) tailings basin system is excluded from Clean Water Act (CWA) Section 404 jurisdiction and/or permitting requirements.

STATUS:

U. S. Steel requested the United States Army Corps of Engineers (USACE) concurrence that the tailings basin is a settling basin or a treatment unit and therefore the basin, and any wetlands therein, were exempt from Section 404 permitting requirements prior to a jurisdictional determination being conducted.

On May 8, 2012, U. S. Steel received a letter from USACE stating their position that the wetlands in the tailings basin are not excluded from CWA jurisdiction. U. S. Steel responded on June 1, 2012 respectfully disagreeing with USACE's position and requesting a response to questions related to the May 8th letter before the approved jurisdictional determination was completed.

On June 26, 2012, U. S. Steel met with representatives from the USACE. U. S. Steel presented additional information about the construction and operation of the tailings basin and about its position that the tailings basin is a treatment unit and therefore all activities associated with its operation are exempt from the CWA Section 404 permitting requirements. USACE requested additional written information to support the company's position. U. S. Steel is submitting this information in response to that request. U. S. Steel is requesting a follow-up meeting with USACE to discuss the submittal prior to USACE issuing a jurisdictional determination.

BACKGROUND/OPERATIONS of TAILINGS BASIN:

Permitting/Construction Timeline

U. S. Steel submitted plans for the Mountain Iron Taconite Plant (Minntac) tailings disposal system to the Minnesota Department of Health, Section of Water Pollution Control, in a letter dated September 10, 1963. Application for the initial tailings basin, to encompass 6.6 square miles, was subsequently submitted to the Minnesota Department of Health, Section of Water Pollution Control, on March 17, 1966. Mention of the tailings basin is also contained in Water Appropriations Permit No. P.A. 63-846 issued to U. S. Steel by the Minnesota Department of Conservation on March 23, 1964. The March 17, 1966 application indicates that the tailings basin would be located in parts of sections 15, 16, 17, 19, 20, 21, 22, 23, 27 28 and 29 of Township 59N, Range 18W. Receipt of the application and plans was acknowledged in a letter from the State of Minnesota Department of Health, Section of Water Pollution Control on March 28, 1966.

U.S. Steel has been issued a succession of permits for the tailings basin to construct, operate and fill the basin with tailings beginning before the creation of the Minnesota Pollution Control Agency (MPCA) and the U.S. Environmental Protection Agency (USEPA) and the federal CWA and continuing through the current federally enforceable NPDES permit:

1966—Minnesota Water Pollution Control Commission (predecessor to the MPCA) Permit #5055
1968—Minnesota Pollution Control Agency Permit #5976
1972—Minnesota Pollution Control Agency Permit #7248 (supplanting permits #5055 and #5976)
1987—Minnesota Pollution Control Agency NPDES/SDS Permit #0057207 issued in compliance with the Federal Water Pollution Control Act and Minnesota Statutes
1989—Minnesota Pollution Control Agency modification to NPDES/SDS Permit #0057207
2006 – Minnesota Pollution Control Agency modification to NPDES/SDS Permit #0057207
2007 – Minnesota Pollution Control Agency modification to NPDES/SDS Permit #0057207
2010--Minnesota Pollution Control Agency modification to NPDES/SDS Permit #0057207

The Minnesota Water Pollution Control Commission granted a permit (File: WPC – 5055) for construction of "an initial tailings basin system for the storage of tailings and clarification of plant process water" on May 10, 1966. Permit WPC 5976 was subsequently issued to U. S. Steel on November 26, 1968 authorizing operation of "a tailings basin system for the storage of tailings from processing of taconite, and for clarification and recirculation of plant process water...". The construction and operation authorized by permits WPC 5055 and 5976 was for the initial tailings basin ("Cell 1") constructed for disposal of tailings from the Minntac Step I taconite processing facility, which began operation in 1967. Please refer to Attachment 1 for WPC permits 5055 and 5976. Figure 1 provides a 1965 map of the tailings basin area from Specification No. 6690-11, showing the location of the various initial tailings basin (Cell 1) perimeter dike sections, which was included in the application to depict the area of permit coverage.

Expansion of the processing facilities in 1972 (Step II) and 1978 (Step III) was accompanied by an expansion of the tailings basin to accommodate additional tailings disposal capacity. Construction and operation of the expanded Minntac tailings basin ("Cell 2") was authorized under Combined Permit 7248, issued by the Minnesota Pollution Control Agency on March 31, 1972, "for treatment and disposal of wastes from the processing of taconite ore and the recirculation of process water...". Figure 2 is a copy of a 1971 map from Specification No. 635-1026-1, which was included in the Application for Addendum to Disposal System Permits WPC 5055 and WPC 5976 to the Minnesota Pollution Control Agency, dated September 22, 1971.

Tailings Basin Construction Details

The tailings basin was built in stages. The dikes were designed and constructed to hydrologically separate the tailings basin area from the area outside the dikes to comply with the Special Condition 1 of Permit #5055 and Permit #7248 requiring that "no effluent shall be discharged from the system to surface waters of the State."[1]

The initial basin ("Cell 1") was constructed in 1967 under conventional methods and encompassing the 6.6 square miles mentioned above. The tailings basin perimeter dikes were designed to contain the tailings and decant water (i.e. water treated for suspended solids) for reclamation. The "Cell 1" perimeter dike was constructed with a traditional clay core and other excavated material, such as soil, sand, rock, etc., for the dike shell, from the original facility construction at Minntac. Figure 3 shows a typical cross section of the Cell 1 dike construction. Subsequently, when Step II was added in 1972 another tailings basin cell ("Cell 2") was added bringing the basin to its present size of approximately 12.5 square miles. However, since clay was no longer abundantly available, a new dike construction method was developed utilizing the two tailings fractions produced by the plant.

Similar to construction of the Cell 1 dike, virgin topsoil was removed from the proposed footprint of the perimeter dike and a keyway dug along the centerline into the underlying glacial drift. Coarse tailings were then hauled by truck and placed in two parallel rows approximately 100 feet apart. When each coarse tailings lift reached 10 feet, pipelines were constructed such that fine tailings could be pumped, or spigoted, into the channel separating the two coarse tailings dikes. Following dewatering, the particle size distribution of the fine tailings (see sieve analysis results below) and width of emplacement created a perimeter dike core with properties similar to a typical clay core. A July 1971 report entitled "Seepage and Stability Analysis of Taconite Tailings Basin," by the University of Minnesota St. Anthony Falls Hydraulic Laboratory (please refer to Attachment 2), listed the hydraulic conductivity of hand-compacted fine tailings from the U. S. Steel Minntac facility at approximately $1x10^{-5}$ cm/s. This compares favorably with the hydraulic conductivity of layered clay, reported to be in the range of $1x10^{-4}$ to $1x10^{-6}$ cm/s.

Coarse Tailings Sieve Analysis

Sieve No.	% Passing
4	94–100
10	68
20	31
40	12

Fine Tailings Sieve Analysis

Sieve No.	% Passing
20	100
35	95
65	85
150	75

[1] Permit #0057207 later authorized discharges from two seepage areas from the tailings basin. Those seepage areas are subject to the effluent limit and monitoring requirements contained in that permit as issued and as later modified.

60	5	270	65
150	3	325	60
200	-	500	45

The initial Cell 2 perimeter dike construction was initiated and completed in 1972. The perimeter dike alignment, present today, represents the final perimeter boundary of the Minntac tailings basin. The height of the perimeter dike was periodically increased over time, as authorized by MPCA permit 7248 and described by U. S. Steel Specification No. 635-1026-1.

Subsequent 10 foot coarse tailings lifts were added, along with the corollary spigoted fine tailings core material, through the mid- to late-1980s until the perimeter dike reached its ultimate elevation of 910 – 915 feet above Lake Superior datum (note that Lake Superior is generally recognized as 602 feet above mean sea level). Figure 4 illustrates a typical cross section of the existing Minntac tailings basin perimeter dike.

Interior dikes constructed within the perimeter dike have been constructed entirely of coarse tailings. Coarse tailings are hauled by truck and initially deposited directly on the existing land surface at a predetermined dike width and built vertically at the angle of repose inherent to the material. The interior coarse tailings dikes are used to retain the fine tailings slurry while also providing an effective coarse tailings disposal option. The ability of U. S. Steel to build interior coarse tailings dikes allowed for the development of a relatively large number of fine tailings cells which could be more easily managed for dust control in comparison to large, open-basin tailings disposal facilities.

Tailings Basin Water Management Details

Taconite processing requires significant amounts of water. Most of the water demand is in the concentrating and agglomerating processes, with the majority of the demand in the Concentrator. A significant portion of the Concentrator water demand is satisfied through an internal recycle loop from the fine tailings thickeners. However, fine tailings disposal is accomplished via slurry discharge of underflow from the fine tailings thickeners into the tailings basin. The slurry discharge from the Concentrator fine tailings thickeners requires a continuous supply of 20,000 - 25,000 gpm of water. The Agglomerator facilities utilize an additional 10,000 – 15,000 gpm of water for various unit operations, including waste gas wet scrubbing, housekeeping dust collectors, material transport, floor washing, etc.

To satisfy this level of water demand, the Minntac tailings basin was designed to maximize reclamation of clarified water. All water discharges from the Concentrator and Agglomerator facilities go through the tailings basin and ultimately collect in a dual-basin clear pool reservoir system, Cells 1 and 2.

The Cell 2 clear pool currently covers an area of approximately 1100 acres and accepts decant flow (i.e., water flow free of suspended solids) from most of the fine tailings disposal cells. The footprint of the Cell 2 clear pool was much bigger following

implementation of the "Cell 2" tailings basin beginning in 1972 but has been reduced in size as additional fine tailings disposal cells were constructed and filled. No additional fine tailings cells will be added to the Cell 2 clear pool so the current footprint will be maintained for the life of the facility. Water is currently pumped from Cell 2 into Cell 1 to ensure sufficient head is maintained over the pumps in the tailings basin return pumphouse. The tailings basin return pumphouse is a permanent structure located on the southeast side of Cell 1. The pumphouse contains 10 vertical turbine pumps that discharges clarified water through two parallel 36-inch pipelines back to a 23 million gallon on-site reservoir/equalization basin for subsequent distribution to the various processing facilities.

The Cell 1 clear pool reservoir covers an area of approximately 450 acres and represents the remnant of the original "Cell 1" tailings basin constructed in the 1960s. The Cell 1 clear pool accepts some decant from fine tailings disposal and all of the discharge from the Agglomerator facility. Agglomerator discharges are directed through one or more of the areas currently defined as E1, E2, or E3, all of which are in the confines of the original "Cell 1" tailings basin. Agglomerator discharges commonly contain valuable iron units from spillage at various points in the process. To recover the iron units, Agglomerator discharges are first directed through a series of settling ponds prior to sending the decant water off to the Cell 1 clear pool for reclaim.

Although there is no direct water or wastewater discharges from the tailings basin to downgradient waters of the state, there is an overall loss of water equal to about 5 – 10% of the water discharged into the tailings basin through void losses, direct evaporation, evapotranspiration and seepage. These losses are made up with water pumped into the 23 million gallon reservoir from the Mt. Iron Pit, located just north of the Minntac Administration Building. Please refer to Figure 5 for an overall water management process flow diagram of the tailings basin system. Figure 5 was submitted to the Minnesota Pollution Control Agency (MPCA) and the United States Environmental Protection Agency (USEPA) Region V in December 2011 as part of a renewal application for NPDES / SDS Permit No. MN0057207.

ANALYSIS:

Tailings Basin was Permitted and Constructed Prior to CWA Phase-in Dates and

As previously described, the Minntac tailings basin system was originally permitted and constructed with the plant in the 1960's. The tailing basin is located on the Laurentian (topographic) divide between the Lake Superior and Hudson Bay drainages. Figure 6 shows the major watersheds near the Minntac tailings basin system, while Figures 1 and 2 depict local historic topography. Being on a major topographic divide, any historic waters and wetlands were headwater features. On July 25, 1975, regulations were published governing the filling of waters of the United States, including wetlands, under the CWA. These regulations, and the July 19, 1977 revisions, authorized filling activities that occurred prior to this date, and phased in the permitting program. The phase-in date for headwater features jurisdiction was July 1, 1977. As such, the construction of the

tailings basin and any associated direct and indirect impacts were legally performed per the above noted regulations. Since the entire tailings basin and internal settling basin(s) are enclosed by a continuous dike system, the portion of the surface water system located within the tailings basin was severed from the downgradient portion of any tributary system and has remained so for nearly 50 years.

The purpose of the dike system was to eliminate the hydrologic connection between the area within the dike system and downgradient waters in compliance with permit conditions. The dike design involved two large, parallel course tailing berms, approximately 80-feet wide, separated by 100 feet. Within the 100–foot separation was a third, 100-foot wide, berm of fine tailing material keyed into the original ground surface. The overall width of the dike system is approximately 260-feet at the top.

In summary, the perimeter dike was constructed pre phase-in of CWA regulations therefore it, and all secondary impacts are considered permitted. Additionally, any substantive connection with downgradient waters was similarly severed with the construction of the dike system prior to the phase-in date. This has been the normal circumstance for half a century.

Waters of the United States

Wetlands contained within the outer berm of the tailings basin are not "waters of the United States" because they are: (1) not "navigable waters" as defined by Federal law; (2) not interstate waters; (3) not part of a tributary system to one of the above; (4) not wetlands adjacent to any of the foregoing; and (5) not an impoundment of any of the above.

The purpose of the dike system was to eliminate the hydrologic connection between the area within the dike system and downgradient waters in compliance with permit conditions. The dike design involved two large, parallel course tailing berms, approximately 80 feet wide, separated by 100 feet. Within the 100–foot separation was a third, 100 foot wide, berm of fine tailing material keyed into the original ground surface. The overall width of the dike system is approximately 260 feet at the top.

U.S. Steel has been provided no documentation of the existence of the wetlands prior to the construction of the dike system. As can be seen in historic aerial photographs in Figure 7, a considerable amount of wetland and open water habitat has developed as a result of the implementation of the dike. The test for determining whether a wetland is a water of the United States is provided in *Rapanos v. United States.*[2] There was no majority opinion in *Rapanos*. Later courts have interpreted, based on the plurality opinion and Justice Kennedy's concurring opinion, that a wetland is considered a water of the United States if it meets one of the following two (2) tests:

[2] *Rapanos v. United States,* 547 U.S. 715 (2006).

1. The wetland has a continuous surface connection to bodies that are waters of the United States in their own right, so that there is no clear demarcation between 'waters' and wetlands, are adjacent and covered by the CWA.

2. There is a significant nexus between wetlands and waters that are or were navigable in fact or that could reasonably be so made. The requisite nexus exists if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical and biological integrity of the covered waters more readily understood as navigable.[3]

Importantly, courts have concluded that "a wetland would not satisfy Justice Kennedy's test if its effect on water quality were speculative or insubstantial."[4]

Assuming that the USACE can document that wetlands existed at the time of the construction of the dike, and applying the *Rapanos* case to this situation, the basis of the tailings basin perimeter dike design, as evaluated and confirmed by the St. Anthony Falls Hydraulic Laboratory, was to create a clear pool reservoir for process water reclamation. The clear pool reservoir(s) allow for the clarification of suspended solids contained in decant from discrete fine tailings cells so that a majority of the water from the fine tailings slurry can be reclaimed and pumped back to the processing facility to satisfy process water demands.

The definition of adjacent first appeared in the 1977 regulations (33 CFR §323.2(d)).

> The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."

Since the publication of this regulation guidance has continued to be provided regarding what constituted man-made dikes or barriers. In nearly all cases, the guidance indicated that some form of hydrologic function must remain despite the barrier.

1988 guidance provided by the Directorate of Civil Works stated:

> "3. A determination of adjacency should not be based on historic connections unless the area of man-made fill is an unpermitted discharge occurring after the relevant phase-in date for jurisdiction, or unless the area is a berm, dike, or other narrow upland landscape feature suggested by the examples given in the definition for adjacency."

This guidance clearly indicates two key concepts: 1) Section 404 determinations are not based on historic connectivity, but rather the current (normal) circumstances; and 2) the intent of the land barrier rule was that if the barrier was sufficiently narrow, the adjacent

[3] *Rapanos* at 717.
[4] *Bailey* at 798.

area would retain certain connectivity functions and not function as an isolated wetland. In this case the dike system is over 260 feet wide and cannot be considered "narrow." It effectively provides a hydrologic and ecological separation between the basin and downgradient waters.

On February 13, 2001, the USACE - Galveston District issued the policy known as the Two-Barrier Rule (see below). The Galveston District has long been viewed as a national expert on dikes and this policy was unofficially adopted by many Districts around the country due to its simplicity, logic, and ease of interpretation. Regarding the outer dike system at the Minntac site, the dikes actually consist of three large consecutive berms, thereby suggesting isolated wetlands and waters per the Two-Barrier Rule.

> "c. TWO-BARRIER Rule: When at least two natural or man-made upland barriers or berms separate a wetland/water from other waters of the U.S. it is isolated, not adjacent, even within floodplain situations. The rationale is that the two barriers of sufficient height would eliminate the necessary surface connection...."

Considerable guidance has been issued regarding adjacency. The guidance is consistent with that previously noted and its intent is focused on how to evaluate the presence/absence of connectivity and functions related to adjacency; absent of which, there is no need to establish a significant nexus. The existing (current) condition within the tailings basin represents the normal circumstance. The dike was designed to isolate hydrology within the basin and that the dike is by no means "narrow," suggesting the continued isolation of the waters and wetlands within the tailings basin.

On March 14, 2012, the USACE properly determined that a wetland area on the Minntac property was not jurisdictional because it is "completely surrounded by packed course tailings roads and berms and is located within the watershed of [the] Minntac Mine's tailings basin" and that the flow from that area "does not discharge to a water of the U.S. since all flow eventually ends up in the tailings basin." Therefore, the USACE has already determined that the tailings basin is not a water of the U.S.

In addition, the March 14th determination notes that "the course tailings are limiting to interbasin flow" and that the flow is "infrequent." Given that determination and the significant berm created with coarse tailing surrounding the tailings basin, the USACE must certainly conclude that the berm eliminates any significant nexus with any adjacent waters of the U.S. The wetlands within the tailings in the subject area cannot have more that a speculative or insubstantial effect on the any waters of the U.S. outside of the tailings basin.

Relevant Cases

A recent jurisdictional determination issued by the USACE on January 10, 2011 to Magnetation Inc. provides an assessment of a tailings basin site. That assessment should apply equally to the Minntac Tailings basin. The USACE stated in the Approved

Jurisdictional Determination Form for that determination that the potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. The USACE added this explanation:

> "The wetlands area that developed on top of the mine waste consists of varying wetland plant communities, including approximately 14 acres of open water pond surrounded by shallow marsh. *The shallow marsh transitions into forested wetlands as you progress toward the upland. The wetland complex is isolated from downstream wetlands or waters by the waste containment berm surrounding the site."* [5]

Furthermore, the jurisdictional determination for the Erickson Lake concentrate area, page 2, first paragraph, states the following:

> "Coarse tailings are routinely used in the construction of roads and tailings basin berms and are limiting to inter-basin water flow. Although water does "seep" through the coarse tailings, this flow is infrequent and *does not discharge to a water of the U.S. since all flow eventually ends up in the tailings basin."*

The seep flow statement supports the conclusion that wetlands within the perimeter dike of the tailings basin are isolated because the perimeter dike is less permeable than the dike around the concentrate storage area; so seeps would be even less. More importantly, the statement indicates that the tailings basin was not a water of the United States. USACE should maintain consistency between jurisdictional determinations (Please refer to Attachment 3 for the 2012 Erickson Lake and Magnetation, Inc jurisdictional determinations).

The Minntac tailings basin system is similarly situated and should be treated consistently.

Waste Treatment System Exemption

USEPA has delegated its National Pollution Discharge Elimination Permit (NPDES) authority to the MPCA. The area bounded by the perimeter dike of the tailings basin is a treatment system currently authorized by NPDES/SDS Permit No. MN0057207 (NPDES Permit) issued by the MPCA pursuant to §402 of the CWA. Furthermore, the tailings basin system also meets the definition of disposal system[6] and/or treatment works[7] pursuant to Minnesota statutes.

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[5] USACE Jurisdictional Determination to Magnetation, Inc., January 10, 2011 (emphasis added).

[6] "Disposal system means a system for disposing of sewage, industrial waste and other wastes, and includes sewer systems and treatment works." MN Statutes 115.01, Subd. 5

[7] "Treatment works means any plant, disposal field, lagoon, dam, pumping station, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary land fill, or other works not specifically mentioned herein, installed for the purpose of treating, stabilizing or disposing of sewage, industrial waste, or other wastes." MN Statutes 115.01, Subd. 21

CWA regulations at 33 CFR §328.3 provide that waste treatment systems are not waters of the U.S.:

> Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the U. S.

The USEPA provided this comment in the Federal Register responding to comments when it adopted the exemption:

> Some commenters suggested that waste treatment systems be excluded from the definition of navigable waters. USEPA disagrees with this comment where cooling ponds are involved. . . . [E]xcept for cooling ponds which meet "the criteria for waters of the United States" (such as, for example, those which are used for fishing or other recreational purposes by interstate travelers), *EPA agrees with a frequently encountered comment that waste treatment lagoons or other waste treatment systems should not be considered waters of the United States. Accordingly, the definition has been revised to exclude such treatment systems.*[8]

44 F.R. 32858 (June 7, 1979)(emphasis added).

Shortly after its original adoption, EPA modified this definition, which is found in the May 19, 1980 final consolidated permit regulations:

> "This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as a disposal area in wetlands) nor resulted from the impoundment of waters of the United States." [9]

A number of petitions for review were filed in response to the proposed language and USEPA withdrew the modified language. EPA immediately agreed "that the regulation should be carefully re-examined and that it may be overly broad. Accordingly, the Agency is today suspending its effectiveness. EPA intends promptly to develop a revised definition and to publish it as a proposed rule for public comment." [10]

The USACE's May 8, 2012 letter to Minntac contained an erroneous citation to withdrawn opinion for *Northern California River Watch v. City of Healdsburgh*, 496 F.3d 993 (9th Circuit 2007). The cite used in the USACE letter is to an opinion that was withdrawn and replaced. In that case the court held that the pond in question might be

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[8] *44 Fed. Register 32858 (June 7, 1979)*
[9] *Federal Register, Vol. 45, No. 141 (July 21, 1980)*
[10] *Id.*

part of a treatment system but "it is neither a self-contained pond nor is it incorporated in an NPDES permit as part of a treatment system."

Here's the key statement from that court for the purpose of this analysis:

> "The waste treatment system exemption was intended to exempt either water systems that do not discharge into waters of the United States or waters that are incorporated in an NPDES permit as part of a treatment system. See 44 Fed. Reg. 32858 (June 1, 1979); *In the Matter of: Borden, Inc./Colonial Sugars*, 1984 1 E.A.D. 895 (E.P.A. 1984). In other words, a permit is not required to discharge pollutants into a self-contained body of water that has no connection to a water of the United States, *or into a body of water that is connected to a water of the United States, but that is part of an approved treatment system.*" [11]

The *Northern California River Watch* court cites an EPA administrative decision cited as *In the Matter of: Borden, Inc./Colonial Sugars,* 1984 1 E.A.D. 895 (E.P.A. 1984) that provides additional guidance. That decision addressed a discharge to a wetland that had been occurring since 1896. The issue was whether the company could get credit for the treatment that took place in the wetland and that the discharge was therefore to a wastewater treatment system rather than a water of the U.S.

The *Borden* decision contains this statement describing the waste treatment system exemption and acknowledging the relevance of a constructed physical barrier creating the containment to the applicability of the exemption:

> "It would appear then that the Agency intended the waste treatment system exemption to apply to systems where wastewaters are contained or confined within physical barriers, *i.e.,* containment systems. *Accordingly, for the exemption to apply, it would appear that there must be a containment or an impoundment of the wastewaters thereby establishing the existence of a wastewater treatment system and not merely a discharge into a portion of waters of the United States which are segregated from the remainder of such waters by an imaginary barrier, such as a property line*. Of course, the reason for this is obvious. The exemption was not intended to transform "waters of the United States" into waste treatment systems without at least the protection afforded by 8 physical barrier separating the discharge from navigable waters."[12]

In the *Borden* case, the question was whether an NPDES permit was required for a natural treatment system that was not contained in any way but rather flowed into surrounding waters. There is no such issue in the present case, since there is a physical barrier of the exterior dike surrounding the basin which prevents a surface water discharge. It is clear that "[t]he waste treatment system exemption was intended to

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[11] *Id.* at 1001-02 (emphasis added)

[12] *In the Matter of Borden, Inc. Colonial Sugars, NPDES Appeal No. 83-8 (Sept. 25, 1984).*

exempt either water systems that do not discharge into waters of the United States or waters that are incorporated in an NPDES permit as part of a treatment system." [13] The waste water is contained by the permanent diking system that fully surrounds the tailings basin, meeting the *Borden* standard and is covered by a long-standing NPDES permit.

As previously stated, the Minntac tailings basin was originally constructed with the plant in the 1960's. Tailings and process waters, stormwater, and non-process waters from the taconite processing are discharged into the tailings basin pursuant to the terms of the NPDES permit. Almost all of the water discharged to the tailings basin is recycled back to the plant.

The tailings basin is entirely enclosed by a man-made perimeter dike, isolated from navigable waterways, and associated tributary system, and functions as a waste treatment system and settling basin for the tailings, which are Section 404 CWA (CWA) exclusions.

As such, the tailings basin provides settling/treatment and water recycling for NPDES/SDS compliance. Discharges to and from the tailings basin are authorized via the NPDES permit. The NPDES Permit can be viewed in its entirety as Attachment 4.

It should be noted that tailings basin systems are identified as performing critical functions associated with "in process recycle of waste streams" and "end of pipe treatment techniques - secondary settling". These processes are identified as part of Best Available Technology Economically Available (BAT) applicable to the Iron Ore Mining Subsector within Section VIII of the Ore Mining and Dressing Effluent Limitation Guideline (ELG) Development Document.[14] Without the settling/treatment and process water recycling afforded by the tailings basin system, Minntac would not meet the applicable ELGs associated with the iron ore subcategory (40 CFR §440) and incorporated into the Permit. The ELGs include limits of the concentrations of total suspended solids (TSS) and dissolved iron (iron). Both TSS and iron concentrations are significantly reduced by the settling/treatment that the tailings basin system provides.

In addition, the Permit Facility Description (Page 3 of 3) explicitly authorizes within the NPDES permit following process and non-process water discharges to the tailings basin system as follows:

Wastewater discharges to the tailings basin	Flow rate
Fine tails slurry / concentrate process water	15,700 gpm
Agglomerator process water	1,700 gpm
Sewage plant discharge (NPDES/SDS MN0050504)	40 gpm
Plant non-process water (wet scrubber	varies

[13] *Northern California River Watch v. City of Healdsburgh, 496 F.3d 993 (9th Circuit 2007).*

[14] "Development Document for Final Effluent Limitations Guidelines and New Source Performance Standards for the Ore Mining and Dressing Point Source Category". November 1982. Effluent Guidelines Division, Office of Water, U.S. Environmental Protection Agency, Washington, D.C. 20460

discharge, floor wash, roof runoff, non-contact cooling water)	
Runoff from plant area, stockpile areas, and adjacent upland areas	varies

The Permit Facility Description also describes the location of certain discharges to the tailings basin. Such descriptions include the following:

> The Agglomerator process water, sewer plant discharge, laboratory wastewater, plant non-process water and surface water from the plant enter the south side of the tailings basin through a series of pipes and ditches to the north of the concentrator and Agglomerator buildings, in Section 28.

Furthermore, the tailings basin system is clearly identified in the Permit applications as part of the water management/treatment systems designed to achieve NPDES compliance. The Permit explicitly states:

> ...MPCA authorizes the permittee to construct, install, and operate and to discharge from this facility to the receiving water named above, in accordance with the requirements set forth in this permit.

In addition, the Facility Description states:

> The Facility consists of the Minntac Tailings basin, the drainage area contributing to surface runoff to the basin, and all wastewater disposal systems within the area designated on the map...

The map associated with the Permit Facility Description clearly identifies the tailings basin as an integral part of the water management practices necessary to achieve NPDES compliance associated with the Permit. Stormwater associated with industrial activity is also discharged to the tailings basin, per the Permit Facility Description above. The tailings basin system provides settling/treatment of this stormwater and is the primary best management practice employed to achieve compliance with stormwater regulations and permit requirements. Operations associated with the tailings basin, including the deposition of dry coarse tails, is described, along with construction of the perimeter and interior dike system as a waste treatment system that was designed for NPDES permit treatment purposes.

"The CWA gives no indication that Congress intended to burden industry with the confusing division of permitting authority that [a] contrary reading would create."[15] Based on the information noted above, the Minntac tailings basin system is being regulated appropriately under Section 402 to meet the intent of the CWA. Suggesting that Section 404 jurisdiction exists within the functional area of the waste treatment system is inappropriate and capricious.

---

[15] *Couer Alaska, Inc. v. Southeast Alaska Conservation Counsel,* 129 S.Ct. 2458 (2009).

Settling Basin Exemption

The preamble to the November 13, 1986 Federal Register Notice contains a discussion relating to the definition of waters of the United States. Specifically, "[a]rtificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing" are generally not considered by the USACE as waters of the United States. However, "the USACE reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a water of the United States." 51 Fed. Reg. 41206, 42127 (November 13, 1986). In addition, the preamble states that the EPA also has the right to make this determination on a case-by-case basis. *Id.*

Wetlands are not, by their nature, considered to be "dry land". The USACE asserts that because of previous documentation submitted by U. S. Steel, the USACE cannot agree that the wetlands were created as a result of the diking project. Instead, the USACE states that the wetlands were present at the site prior to the construction of the tailings basin, and therefore, the exclusion does not apply.[16]

The USACE defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."[17] Wetland delineations are conducted to determine the presence and extent of wetlands and utilizing the 1987 USACE of Engineers Wetlands Delineation Manual ("1987 Manual"), Regional Supplements, and Federal guidance to make its determinations.

U. S. Steel recognizes that a delineation performed today would likely show that wetlands exist as a part of the interior diked area. However, U. S. Steel believes that the wetlands were artificially created by the diking project as a part of a man-made settling basin specifically exempted from Section 404 permitting requirements. In January 2011, the USACE made a similar determination relating to Magnetation, Inc.'s Arcturus tailings basin. In part, its jurisdictional determination states that the wetland area developed on top of tailings contained within the mine process and waste facility following the cessation of mining and waste disposal in the early 1960's.[18] Here, U.S. Steel's diking system, implemented in the 1960's, created an artificial biological environment that allowed wetlands to form, including in areas where water was captured but tailings were not deposited. This process is evident in historical aerial photographs taken of the area that became the "Cell 1" tailings basin and began accepting fine tailings in 1967. Figure 7 shows a series of aerial photographs of Section 22 and/or Section 27 of Township 59 North, Range 18 West, north of Mountain Iron, MN. The area shown in this series of photographs corresponds with the area in and around current Cell E2 in the Minntac tailings basin (see Figure 8). The photographs shown in Figure 7 show that in 1948 and 1961 there were a few scattered, unconnected pockets of water within the area

[16] 33 CFR § 323.2.
[17] *US v. Bailey,* 571 F.3d 791,800 (8th Cir., 2009). See also 33 CFR § 328.3(b).
[18] USACE Jurisdictional Determination to Magnetation, Inc., March 12, 2012.

of concern. However, by 1972, a new hydrologic system had developed as a result of implementation of the "Cell 1" tailings basin and several well connected wetland areas were evident, all discharging into the clear pool reservoir formed by the tailings basin perimeter dike.

Section 404 specifically exempts from USACE jurisdiction those "artificially created waters which are currently being used for commercial purposes."[19] Wetlands developing within a diked settling basin that is specifically exempted by Section 404 may not be later claimed under the USACE jurisdiction while the commercial purpose is ongoing.

USACE has not provided any documentation that U.S. Steel can rely on to show that a wetland existed previously on the Site. In its May 8, 2012 letter, the USACE asserts reliance on what was referenced as the U. S. Steel 1979 Mine Plan, which states, in part:

> "The tailings basin was constructed to enclose a predominantly swampy area…"

This statement was actually part of the 1983 Permit to a Mining application for the facility. The statement was made in the section titled "Environmental Setting Analysis and Environmental Assessment, 1976." and reads as follows:

> "The tailings basin was constructed to enclose a predominantly swampy area interlaced with gravel eskers and granite outcrop areas directly north of the plant and tying into the Laurentian Divide."

The USACE has the burden of proving the existence of wetlands by a preponderance of the evidence.[20] When the USACE seeks to "invoke the power of the court in order to impose penalties and injunctive relief…to apply an "arbitrary and capricious" standard to the USACE' assertion that certain lands are wetlands would turn the normal burden of proof at trial on its head."[21] It is not clear whether the USACE has documentation reflecting the existence, type or size of the wetland prior to the construction of the dike.

As noted by the Supreme Court in *Couer*, the standard method of addressing mine waste is to build a tailings pond, which is used to treat the waste. [22] Here, a tailings pond, or settling basin was originally permitted and constructed prior to the existence of the CWA, and then later recognized as a waste treatment system through a NPDES permit (Section 402). Under either analysis, U.S. Steel meets the exemption standards under Section 404. To otherwise impose additional permitting requirements on the tailings basin would be redundant and arbitrary.

The USACE also states that it has "other information" that reflects the presence of wetlands prior to the construction of the diking system but has not provided such

---

[19] *Leslie Salt Co. v. U.S.*, 896 F.2d 354 (C.A.9 (Cal.), 1990).
[20] *Stoeco Dev. v. Dept. of Army USACE of Engineers,* 792 F. Supp. 339, 343 (D.N.J., 1992).
[21] *Id.*
[22] *Couer* at 2462.

information to U. S. Steel. Wet areas that are not tributaries or open waters and do not meet the agencies' regulatory definition of wetlands" are generally not protected by the CWA. [23]

CWA Sections 402/404 Separation

Per Section 502(12) and (14) of the CWA, the definitions of the terms "discharge of a pollutant" and "point source," respectively, intuitively indicate that a point source (regulated under Section 402), discharges in to a water of the United States (Section 404), thereby dictating that there is no physical regulatory overlap between Section 402 and Section 404 of the CWA. However, because the U.S. EPA and the USACE historically had differing definitions of "fill material" and the control of discharges of solid waste was still being determined relative to the CWA jurisdiction, Sections 402/404 distinction remained unclear. The CWA history, case law and guidance indicate that the distinction is important since a discharge to a water of the U.S. is regulated either by the U.S. EPA under Section 402 or the USACE under Section 404 but not both.

A January 17, 1986 *Memorandum of Agreement (MOA) on Solid Waste Management* was signed between the two agencies.[24] The MOA was produced in response to settlements of litigation and Congressional oversight hearings to resolve differences over which discharges to waters of the U.S. were to be regulated by U.S. EPA under §402 of the CWA and which are to be regulated by the USACE under §404 of the CWA. The MOA was produced to promote regulatory consistency for those seeking to apply for authorization to discharge wastes in to waters of the U.S.

Originally, this guidance was meant to last until Subpart D of the Resource Conservation and Recovery Act was revised. On May 17, 1993, a memorandum issued by John F. Studt, Chief, Regulatory Branch, HQ-USACE, reaffirmed this policy relative to mining wastes.

The MOA provided that the discharge of pollutants will be subject to Section 402 jurisdiction if it is a discharge in liquid, semi-liquid, or suspended form, or if it is a solid material of a homogenous nature from a fixed conveyance, or if trucked, from a single site and a set of known processes. Mining settling and tailings basins fit this description.[25]

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[23] Draft Guidance on Identifying Waters Protected by the CWA, EPA Publication, pg. 5, (2011)

[24] 51 Fed. Reg. 8871 (March 14, 1986)

[25] Id. Excerpt from Part B of the January 17 MOA between EPA and Corps regarding separation of Section 404 and 402 programs. "5. On the other hand, in the situation in paragraph B.3., a pollutant (other than dredged material) will normally be considered by EPA and the Corps to be *subject to Section 402* if it is a discharge in liquid, *semi-liquid, or suspended form* or if it is a discharge of solid material of a homogeneous nature normally associated with *single industry wastes*, and from a *fixed conveyance,* or if trucked, from a single site and set of known processes. These materials include plac[ing] mining wastes, phosphate mining wastes, titanium mining wastes, sand and gravel wastes, fly ash, and drilling muds, as appropriate, EOA and the Corps will identify additional such materials." *[emphasis added]*

The State issuance of a NPDES permit as a delegated state to U. S. Steel for the tailings basin is a reflection of conclusions reflected in the MOA.

The consistent guidance and practice of Section 402 jurisdiction associated with areas of managed mining waste streams is long established. The two principal agencies associated with the CWA had established a MOA and guidance for this circumstance and have consistently and appropriately implemented the guidance at the site. Regulating areas contained within the enclosed dike system at the Minntac facility under Section 404 would be, in addition to being capricious, a new drastic precedence impacting established reliance on agency policy.

Duplication of Regulatory Application

The original construction of the dike system occurred prior to the phase-in date of the Section 404 regulations, and likely before the enactment of any portion of the Section 404 regulations. As such, per regulation, the regulated work completed prior to that date and the resulting impacts are considered as authorized under Section 404. This authorization of regulated work must include impacts associated with the work, both direct and indirect, in order to be consistent with the existing permitting process. Clearly the intended use of the diked basin would eliminate directly and/or indirectly any wetlands that may have been present at that time. These secondary impacts should therefore be considered permitted as is the dike system itself.

Current policy regarding a project area having wetlands not directly impacted by the project is that those wetlands will require compensation for assumed future disturbances unless a land preservation measure is put in place (e.g., deed restriction, easement, etc.). Following that logic, all waters potentially located within the enclosed footprint of the tailings dike should be assumed to be impacted in the future, especially if the project is a surface mining operation. These impacts were effectively authorized at the time of the direct impacts of the dike construction. That the USACE is considering regulating wetlands for a second time is in conflict with Federal policy which has long since considered them to have already been impacted.

CONCLUSION:

The area bounded by the Minntac tailings basin perimeter dike does not contain waters of the United States nor jurisdictional waters and discharges to that area are not subject to regulation by the USACE under Section 404 due to the following:

- Construction of tailings basin system occurred prior to the phase-in date of Section 404 regulations, therefore the dike system and all secondary impacts are considered permitted;
- The tailings basin system does not meet the definition of "waters of the United States";

- The tailings basin system is a waste treatment system authorized under Section 402 of the CWA through the NPDES permit issued by the MPCA, and as a waste treatment system is excluded from the Section 404 of the CWA;
- The tailings basin system is a settling basin, and as such is excluded from Section 404 of the CWA;
- Discharges to areas within the tailings basin system are regulated under Section 402, not Section 404.
- The USACE consideration in regulating wetlands for a second time is in conflict with Federal policy which has long since considered them to have already been impacted.

FIGURES

Figure 1 – 1965 Drawing of Cell 1 Perimeter Dike

POSSIBLE HAULAGE ROAD

POSSIBLE CLASS II AND III BORROW AREA

ACCESS ROAD & DIKE NO. 1B

CASTING WASTE DISPOSAL AREA

CASTING WASTE DISPOSAL AREA

LIMITS OF POSSIBLE CLASS II AND III BORROW AREA

LIMITS OF POSSIBLE CLASS I BORROW AREA

PLANT AREA

POSSIBLE AGGREGATE STOCKPILE LOCATION

DAM 1B

DAM 1C

DAM 1D

DAM 1E

DAM 1F

DAM 1G

DAM 1H

DAM 1I

DAM 1J

DAM 1K

DAM 1L

DAM 1M

DAM 1N

DAM 1O

DAM 1P

DAM 1Q

DAM 1R

DAM 1S

DAM 1T

DAM 1U

DAM 1V

DAM 1W

DAM 1X

DAM 1Y

DAM 1Z

DATE	REVISION

United States Steel
Minnesota Ore Operations

MT. IRON TACONITE PLANT
TAILINGS BASIN NO. 1
ACCESS ROAD & DAMS
GENERAL ARRANGEMENT MAP

DRAWN S.M.C. - C.L.A. (S.S.) DATE 12-1-00
ENGINEER J.S. JR. (S.S.) DATE 12-1-00
APPROVED SCALE 1" = 800'

54-1-064A

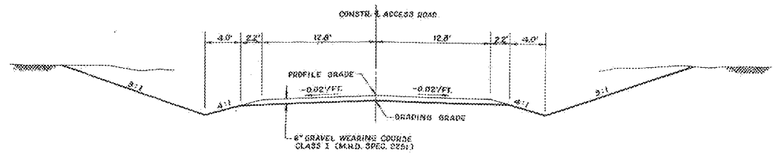
SHEET 1 OF 1

SWINDELL - DRESSLER COMPANY

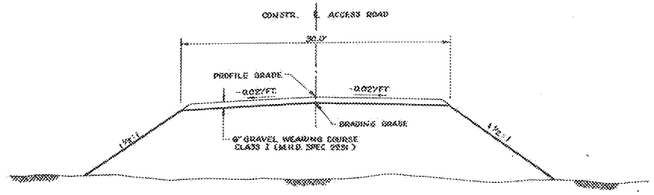
Figure 2 – 1971 Drawing of Cell 2 Perimeter Dike

Figure 3 - Cell 1 Perimeter Dike Typical Cross Section

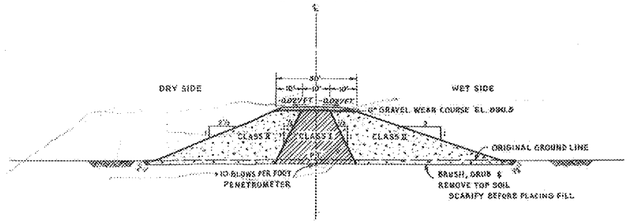
TYPICAL GRADING SECTION
ACCESS ROAD BETWEEN DAMS



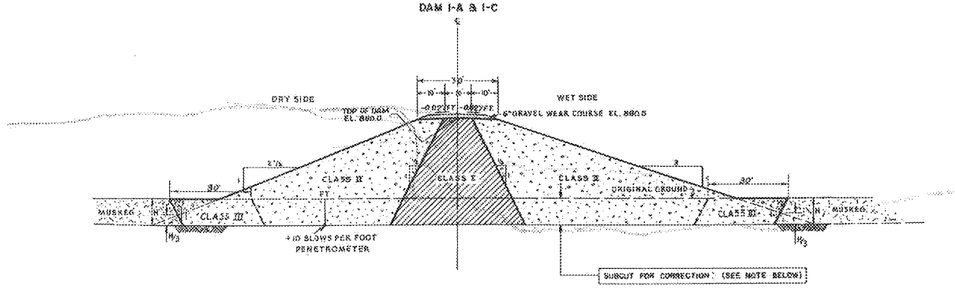
TYPICAL GRADING SECTION
ACCESS ROAD BETWEEN DAMS



TYPICAL SECTION
DAM I-A, I-B & I-C



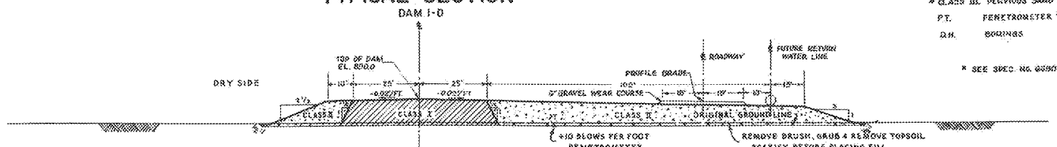
TYPICAL SECTION
DAM I-A & I-C



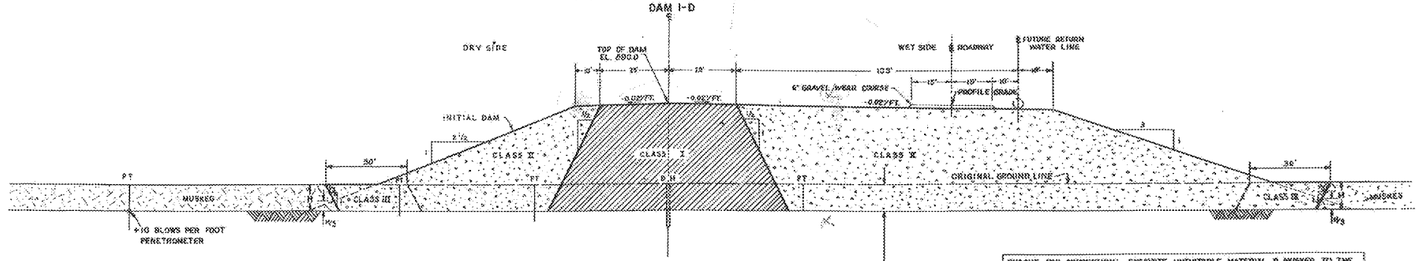
NOTES:
- * CLASS I. IMPERVIOUS CLAY CORE COMPACTED TO SPECIFIED DENSITY.
- * CLASS II. PERVIOUS SAND & GRAVEL FILL COMPACTED IN 2' LIFTS BY NORMAL EQUIPMENT TRAVEL.
- * CLASS III. PERVIOUS SAND & GRAVEL END DUMPED
- P.T. PENETROMETER TEST LOCATIONS
- D.H. BORINGS

* SEE SPEC. NO. 6890-H, SEC. 312

TYPICAL SECTION
DAM I-D



TYPICAL SECTION
DAM I-D



ALL TYPICAL SECTION DIMENSIONS ARE NOMINAL

SWINDELL DRESSLER COMPANY
A DIVISION OF PULLMAN INCORPORATED
PITTSBURGH PENNSYLVANIA

CONT. NO. 5895 | S.O. DWG. NO. RD-H-8

REFERENCE DRAWINGS		DATE	REVISION

United States Steel
Minnesota Ore Operations

DRAWN J.O.W. B.M.D. DATE 11-29-65
CHECKED J.S.Jr. DATE 12-1-65
APPROVED DATE

MT. IRON TACONITE PLANT
TAILINGS BASIN NO.1
DAMS & ACCESS ROAD
TYPICAL SECTIONS

DWG. NO. 54-1-066
SHT. 1 OF 2

Figure 4 - Cell 2 Perimeter Dike Typical Cross Section

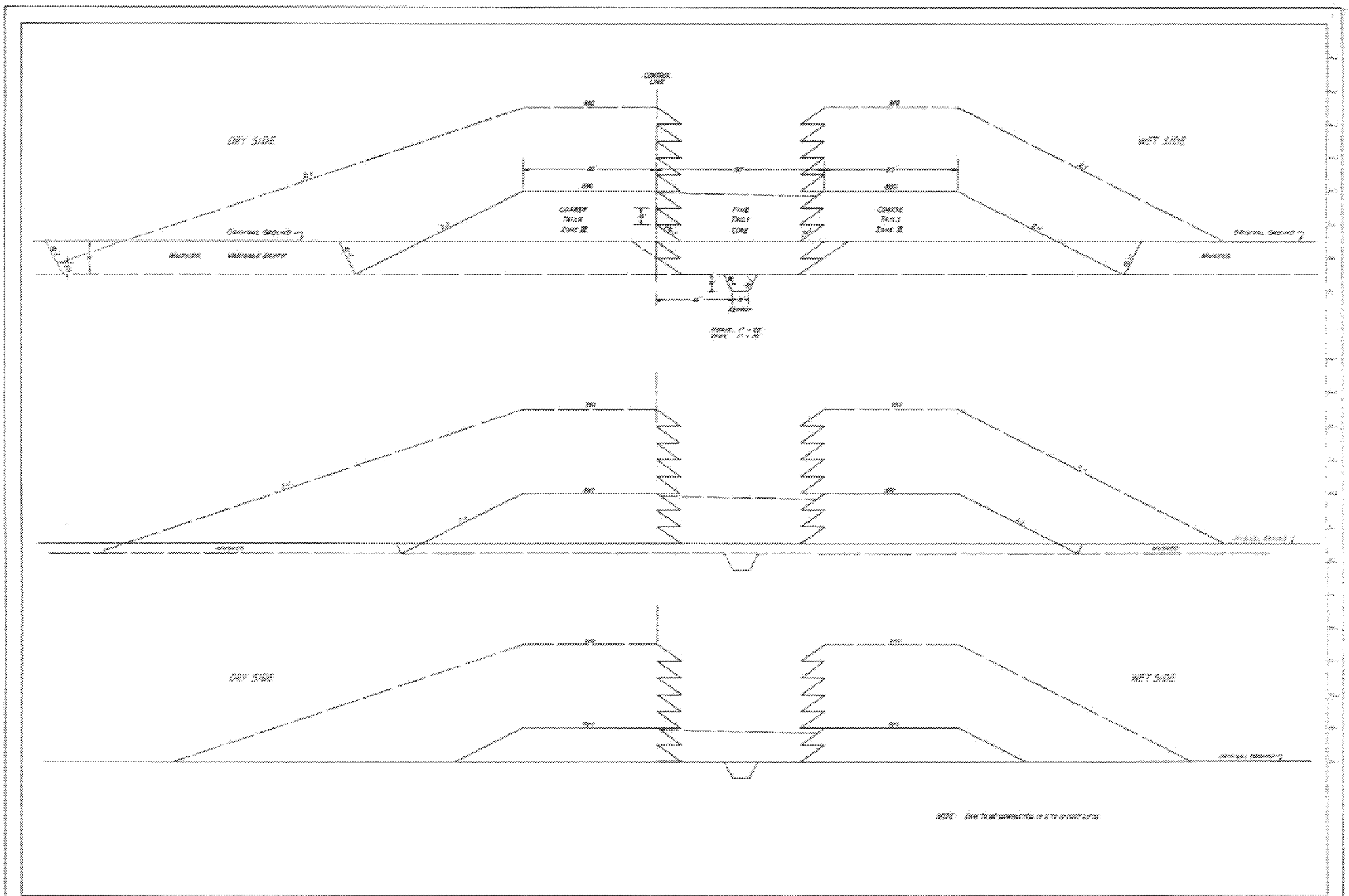
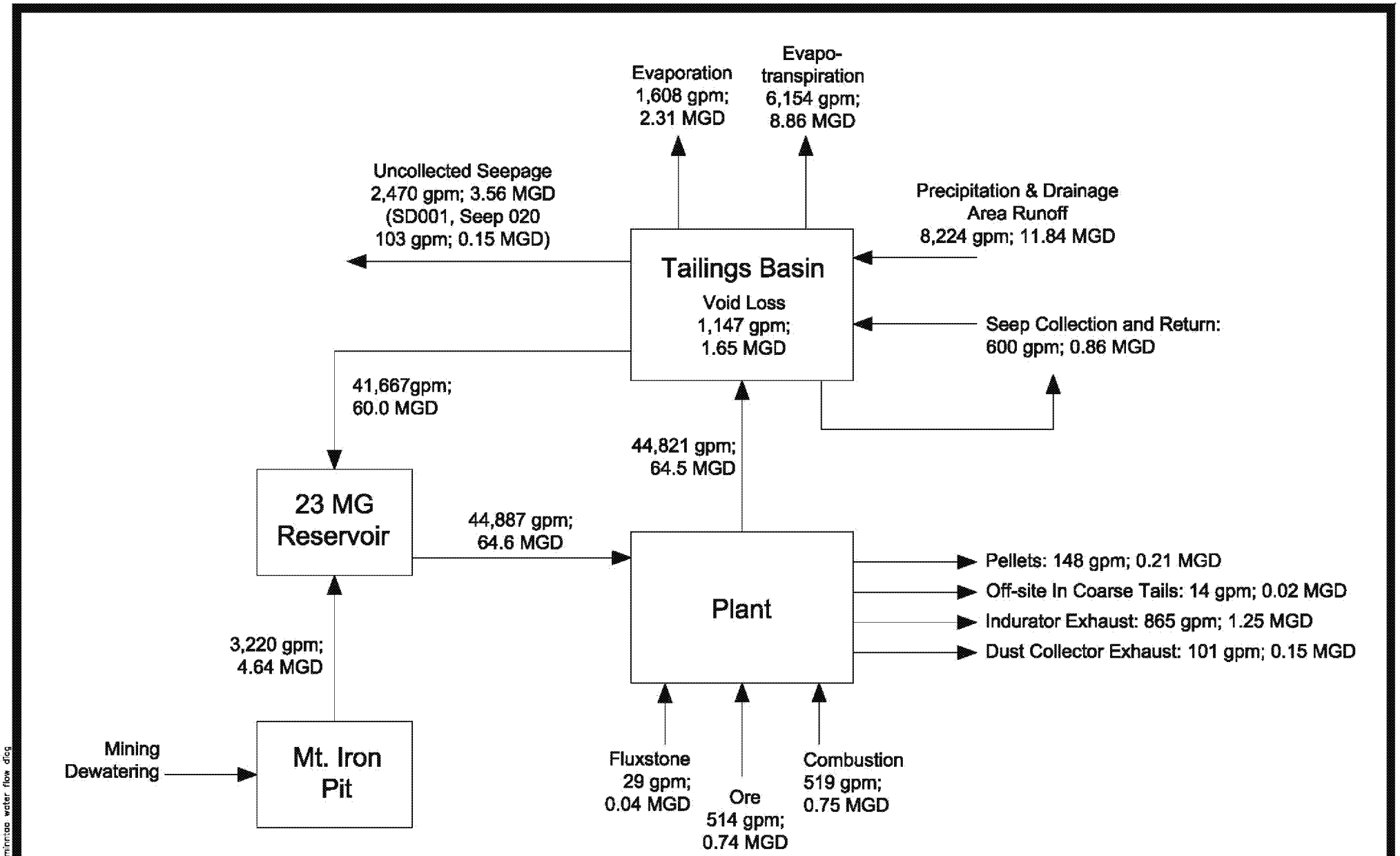


Figure 5 – Water Management Process Flow Diagram of Tailings Basin System



KML 10-28-11 1=1 w:\ww\84285\cad\minntac water flow dfcg

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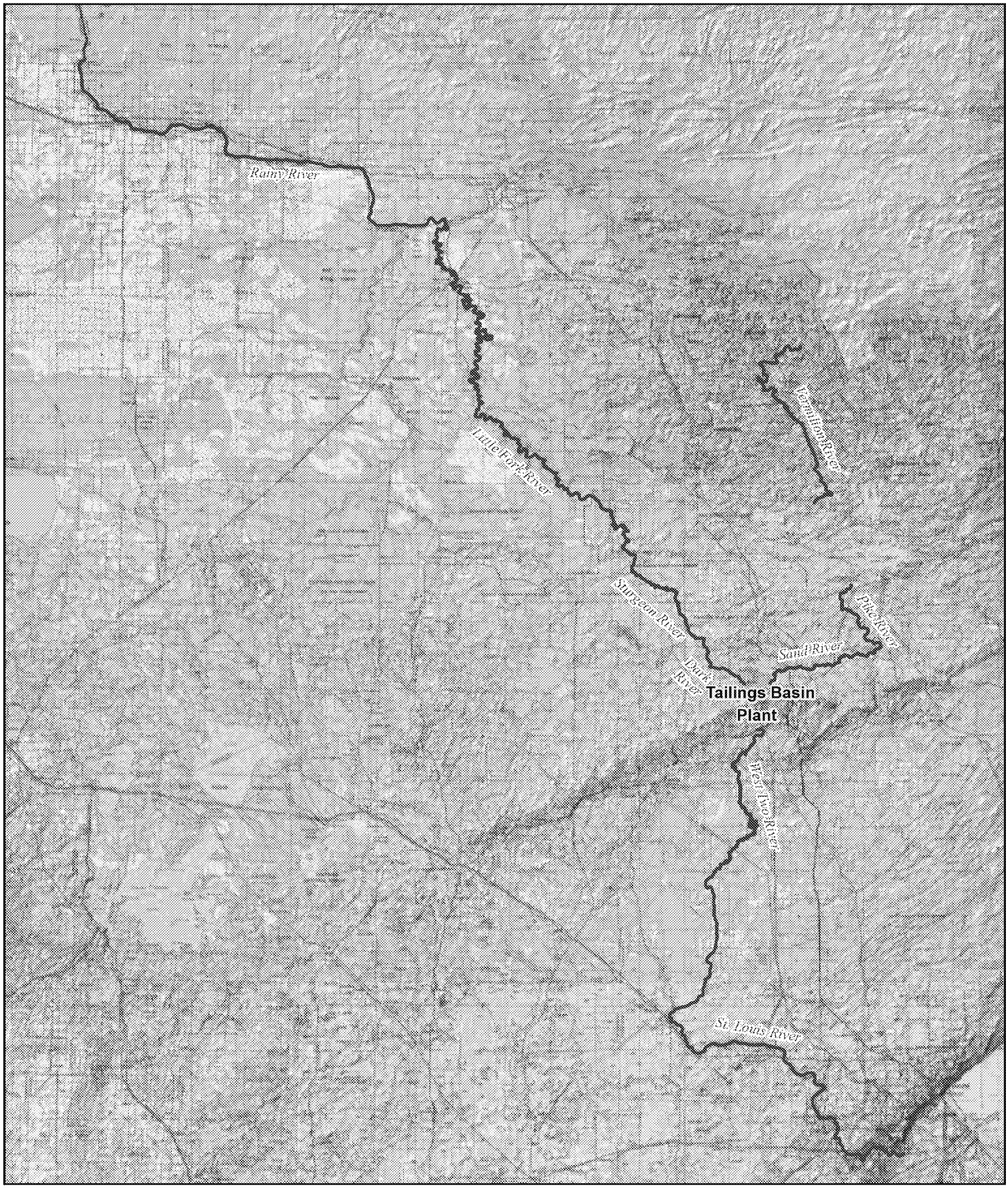
U.S Steel Minntac - Tailings Basin	Nov 11
Water Flow Diagram	Figure 2

Figure 6 – Major Watersheds near Tailings Basin System



Source: MS Virtual Earth
Projection: NAD83 UTM Zone 15N

0 10 20 Miles

N

W:\ww\94265\GIS\Tailings\Fig4.mxd W:\ww\94265\Figures\Tailings\Fig4.pdf

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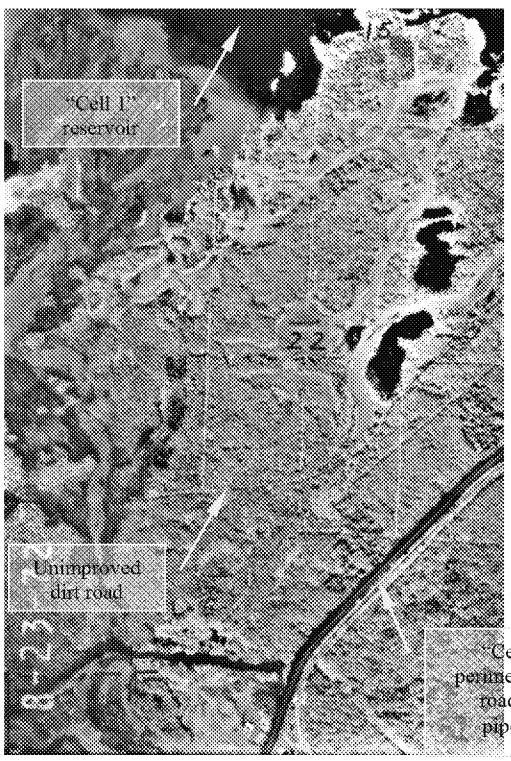
U. S. Steel Minntac - Tailings Basin	July 12
Watersheds Near The Tailings Basin	Figure 6

Figure 7 – Historical Aerial Photographs

1948 aerial photograph. T58N, R18W, NW¼ Sec 22. The continuous line in the bottom right corner is an unimproved dirt road as per the Virginia Quadrangle, MN-St. Louis Co, 7.5 minute Series (Topographic).

1948 aerial photograph. T58N, R18W, SW¼ Sec 22 and W½ Sec 27.

1961 aerial photograph. T58N, R18W, Section 22.



1972 aerial photograph. T58N, R18W, Section 22. Note development of connected wetlands due to hydrologic changes from "Cell 1" tailings basin.

Figure 8 – 2010 Aerial Photograph of Minntac Tailings Basin showing the Boundaries of Sections 22 and 27 in T59N, R18W

Minntac Mine Engineering Dept.

FIGURE 8 - 2010 Tailings Basin

Border - Sections 22 & 27 Twp. 58N Rng. 16W

DATE: 07-13-12

DRAWN BY: G.C.S.

SCALE: 1" = 1600'

ATTACHMENTS

Attachment 1 - WPC Permits 5055 and 5976

STATE OF MINNESOTA
WATER POLLUTION CONTROL COMMISSION
MINNESOTA DEPARTMENT OF HEALTH BUILDING
UNIVERSITY CAMPUS
MINNEAPOLIS
55440

OLIVER IRON MINING DIVISION
MINING ENGINEERING
No. ..... Rec. MAY 13 1965

To	For Info	Recommend	Handle
AHA			
EVB			
EB			
File			

May 10, 1966

Mr. A. H. Axelson
Asst. Chief Engineer
Mine Operations Engineering
Minnesota Ore Operations
United States Steel Corporation
Wolvin Bldg.
Duluth, Minnesota 55802

Dear Mr. Axelson:

Pursuant to authorization by the Minnesota Water Pollution Control Commission in accordance with provisions of the water pollution control statutes approval of plans for an industrial waste disposal system to serve the Mountain Iron Taconite Plant located in St. Louis County is waived, and a permit for construction is hereby granted with the understanding that if the proposed system does not operate effectively, the permittee shall make such alterations or provide such other facilities as may be necessary to provide adequate disposal of the wastes.

The plans (File: WPC - 5055) show an initial tailings basin system for the storage of tailings and clarification of plant process water, and necessary pumps, pipelines, and other appurtances.

RFJ
Pls handle

One set of the plans for the project is being returned under separate cover, and one set is being retained for the Commission's files. When the project has been completed in accordance with the terms of the attached construction permit, this office should be advised on the enclosed industrial waste permit application form so that a field survey can be made and a permit issued for the operation of the waste disposal system.

Yours very truly,

Lyle H. Smith
Executive Engineer

cc: Nichols Twp. Board
Division of Lands & Minerals
Wayne H. Olson, Commissioner of Conservation
St. Louis County Board

MINNESOTA WATER POLLUTION CONTROL COMMISSION
Minnesota Department of Health Building
University Campus
Minneapolis, Minnesota 55440

WPC
Permit No. 5055

PERMIT FOR CONSTRUCTION OF INDUSTRIAL WASTE DISPOSAL SYSTEM MOUNTAIN IRON TACONITE PLANT UNITED STATES STEEL CORPORATION, ST. LOUIS COUNTY

Pursuant to authorization by the Minnesota Water Pollution Control Commission at a meeting on May 26, 1966, and in accordance with provisions of the StAteWater Pollution Control Statutes (Sec. 115.01-115.53), a permit is hereby granted to The United States Steel Corporation, Minnesota Ore Operations, Duluth for construction of a tailings basin system for the storage of tailings from the processing of taconite, and for clarification and recirculation of plant process water,in R18W, T59N, St. Louis County.

The facilities consist of a 6.6 square mile closed system tailings basin together with pumps, pipelines and other appurtances necessary for discharge of tailings to the basin and recirculation of water; all designed to provide satisfactory disposal of the tailings from a taconite ore concentration plant with a design capacity of 4.4 million tons of concentrate annually. The project is described in plan number 54-1-063, dated March 18, 1966, specification number 6690-11, dated December 1, 1965, a summary entitled 'Plan of Mountain Iron Taconite Plant Initial Tailings Basin,' the permit application dated March 17, 1966, and letter of transmittal dated March 17, 1966.

General Conditions

1. This permit shall not release the permittee from any liability or obligation imposed by Minnesota statutes or local ordinances and shall remain in force subject to all conditions and limitations now or hereafter imposed by law. The permit shall be permissive only and shall not be construed as estopping or limiting any claims against the permittee for damage or injury to person or property or to any waters

of the state resulting from any acts, operations, or omissions of the permittee, its agents, contractors or assigns, nor as estopping or limiting any legal claim of the state against the permittee, its agents, contractors or assigns, for damage to state property, or for any violation of the terms or conditions of this permit.

2. No assignment of this permit shall be effective until it is executed in writing and signed by the parties thereto and thereafter filed with the Water Pollution Control Commission.
3. No major alterations or additions to the waste disposal facilities shall be made without the written consent of the Water Pollution Control Commission.
4. The use of the facilities shall be limited to the disposal of the waste materials described in the plan and permit application and associated material on file with the Department of Health.
5. This permit is subject to modification or revocation as provided by law, and may be suspended at any time for failure to comply with the terms of this permit or the provisions of any applicable regulation of the Water Pollution Control Commission.
6. The permittee or assigns shall defend, indemnify and hold harmless the State of Minnesota, its officers, agents and employees, officially or personally, against any and all actions, claims or demands whatsoever which may arise from or on account of the issuance of this permit, or the construction or maintenance of any facilities hereunder.

Special Conditions

1. No effluent shall be discharged from the system to waters of the state.
2. The Water Pollution Control Commission shall be informed promptly of completion of the disposal system, and application shall be made for an operation permit before the system is put into use.

This permit is issued subject to modification or revocation as provided by law and does not estop subsequent establishment of further requirements for additional treatment.

MINNESOTA WATER POLLUTION CONTROL COMMISSION

Lyle H. Smith, Executive Engineer

Dated: May 10, 1966

RF Jaksa

STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY
BOARD OF HEALTH BUILDING
UNIVERSITY CAMPUS
MINNEAPOLIS
55440

November 26, 1968

Mr. Howard P. Clark, Assistant Secretary
U. S. Steel Corporation
Minnesota Ore Operations
900 Wolvin Building
Duluth, Minnesota 55802

Dear Mr. Clark:

The request for an operation permit for the Mountain Iron Taconite Plant waste disposal system which was submitted to this Agency on August 29 has been approved, and a copy of Permit No. 5976 for operation of the project is enclosed.

Please review the permit carefully and let us know if you have any questions concerning it.

Yours very truly,

John P. Badalich, P.E.
Executive Director

JPB:rw
cc Mr. A. H. Axelson
Mr. James Jenko, Village Clerk, Mountain Iron
Mr. John Giorgi, Jr., Chairman, Nichols
Township Board, c/o Mr. G. A. Johnson, Clerk
Chairman, St. Louis County Board, c/o Auditor
Division of Lands and Minerals
Mr. Bruno Sciopini

STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY
BOARD OF HEALTH BUILDING
UNIVERSITY CAMPUS
MINNEAPOLIS
55440

PERMIT FOR OPERATION OF DISPOSAL SYSTEM

Mountain Iron Taconite Plant
United States Steel Corporation
St. Louis County

Pursuant to authorization by the Minnesota Pollution Control Agency, and in accordance with the provisions of Minnesota Statutes, Chapters 115 and 116, plans are approved and a permit is hereby granted to The United States Steel Corporation, Minnesota Ore Operations, Duluth, for operation of a tailings basin system for the storage of tailings from processing of taconite, and for clarification and recirculation of plant process water in R 18 W, T 59 N, St. Louis County, subject to the conditions given below.

The facilities are described in the plans and related material referred to in construction permit 5055 dated May 10, 1966. Certification of completion of the project was made and an operation permit was requested by a letter dated August 28, 1968, in accordance with the conditions of permit 5055.

General Conditions

1. This permit shall not release the permittee from any liability or obligation imposed by Minnesota Statutes or local ordinances and shall remain in force subject to all conditions and limitations now or hereafter imposed by law. The permit shall be permissive only and shall not be construed as estopping or limiting any claims against the permittee for damage or injury to person or property, or any waters of the state resulting from any acts, operations, or omissions of the permittee, its agents, contractors or assigns, nor as estopping or limiting any legal claim of the state against the permittee, its agents, contractors or assigns, for damage to state property, or for any violation of the terms or conditions of this permit.

2. No assignment of this permit shall be effective until it is executed in writing and signed by the parties thereto and thereafter approved by the Agency.

3. No major alterations or additions to the disposal system shall be made without the written consent of the Agency.

4. The use of the disposal system shall be limited to the treatment and/or disposal of the waste materials or substances described in the plans and/or permit application and associated material on file with the Agency.

5. This permit is subject without public hearing to modification or revocation, and may be suspended at any time for failure to comply with the terms stated herein or the provisions of any other applicable regulations or standards of the Agency or its predecessors, and is issued with the understanding that it does not estop subsequent establishment of further requirements for treatment or control at any time by insertion of appropriate additional clauses herein at the discretion of the Agency if it is considered necessary in order to prevent or reduce possible pollution of the environment because of changed or unforeseen circumstances.

6. The permittee or assigns shall defend indemnify and hold harmless the State of Minnesota, its officers, agents and employees, officially or personally, against any and all action, claims or demands whatsoever which may arise from or on account of the issuance of this permit, or the construction or maintenance of any facilities hereunder.

RFJ note BS

7. Reports on the waste disposal system and operational practices shall be submitted regularly every month, and the permittee shall certify that he is in all respects in conformance with the conditions given in the Agency policy statement entitled Policy Regarding Operation Permits For Sewage and Industrial Waste Treatment Works.

8. The plans for this project have been approved with the reservations stated on the attached sheet entitled Information Relative to Review of Plans and Permit Applications.

Special Conditions

1. This permit supplements permit 5955 and all of the conditions of that permit are herewith incorporated in this operation permit.

Permit No. 5976

Dated November 20, 1958

John P. Kinsella, P.E.
Executive Secretary & Chief Executive Officer

Minnesota Pollution Control Agency
Division of Water Quality

INFORMATION RELATIVE TO REVIEW OF PLANS AND PERMIT APPLICATIONS

June 1968

The review of plans and specifications for sewage, industrial waste or other waste disposal systems and applications for permits for the same, is made in accordance with the authority conferred by law (see MS Section 115.07). Approval of plans and permits is based upon the assumption that the information provided by the applicant is correct, and that all other necessary legal requirements have been or will be satisfied.

Plans for sewage, industrial waste or other waste disposal systems are examined with regard to the design features which apply to operation and maintenance of the treatment works or sewer system, the degree of treatment to be provided, the effectiveness and reliability of the system or methods employed, and compliance with applicable standards of quality and purity for waters of the state or effluents of disposal systems. The bulletins entitled Recommended Standards for Sewage Works, May 10, 1960, and Tentative Standards for Design of Small Sewage Works, July 1962, as well as other memoranda are used as a guide in examination of the design, operation and maintenance aspects of the proposed system.

Sewer plans are recommended for approval on the basis that the system is to collect only domestic sewage and such industrial or other waste as may have been provided for in the design. Foundation or footing drains to collect ground water and roof drains or other surface water conduits should not be connected to the sanitary sewer system. Adequate field supervision and inspection by qualified representatives of the owner should be provided at all times during construction to assure that the project is constructed in compliance with the approved plans and specifications.

The Agency assumes no responsibility for the integrity of structures or physical features, or for the reliability, durability or efficiency of specific items of propriety equipment or material. All applicable federal, state and local laws, regulations or ordinances must be followed in the design, location and construction of proposed sewer systems or treatment works.

The Agency reserves the right to withdraw its approval of plans if construction is not undertaken within a reasonable period after issuance of the permit.

John P. Badalich

John P. Badalich, P.E.
Executive Director

MPCA #134

STATE OF MINNESOTA
POLLUTION CONTROL AGENCY

Policy Regarding Operation of
Sewage and Industrial Waste Treatment Works

By resolution of the Agency on August 22, 1967, it was directed that to make the operation permit valid, a certificate must be completed and signed by a responsible municipal or industrial official and the project engineer to the effect that the treatment works have been constructed in compliance with plans approved by the Agency or its predeccessor, and are being operated as designed and in conformance with any applicable conditions given below:

1. The operator in charge of a sewage treatment plant, or comparable industrial waste treatment plant shall, (a) be certified in a grade equal to or higher than the category of the sewage treatment plant or, (b) have sufficient experience to become certified upon application to the examining committee and successful completion of the written certification examination within two years.

2. Sufficient trained personnel shall be employed to insure satisfactory operation and maintenance of the treatment works at all times. Reports on the works personnel showing their qualifications and hours spent each week in operation and maintenance duties at the treatment works shall be filed with the Agency at monthly intervals. Any major changes in operations or personnel shall be reported promptly to the Agency.

3. Records shall be kept on all important aspects of operation and maintenance. The records shall include, (a) measurements of the total daily inflow of sewage and/or industrial wastes, and (b) results of analysis of such sewage or industrial wastes as recommended by the Agency for the particular category of treatment works. One copy of these records shall be kept on file with the municipality or company, one copy shall be available for inspection at the treatment plant, and one copy shall be filed with the Agency regularly every month.

4. Special requirements may be made for operational reporting on unusual types of treatment works and variances may be granted from the foregoing at the discretion of the Agency.

A field investigation should be made by a representative of the Agency to inspect the construction of the treatment works and observe its operation.

John P. Badalich

John P. Badalich, PE
Executive Director

September 12, 1968

MPCA 46

Attachment 2 - July 1971 report entitled "Seepage and Stability Analysis of Taconite Tailings Basin," by the University of Minnesota St. Anthony Falls Hydraulic Laboratory

Final Report

UNIVERSITY OF MINNESOTA

ST. ANTHONY FALLS HYDRAULIC LABORATORY

Project Report No. 125

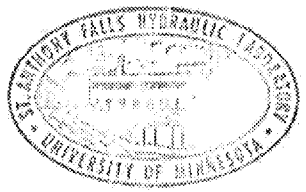
SEEPAGE AND STABILITY ANALYSIS OF TACONITE TAILINGS BASIN

by

John W. Hayden

and

Paul Christiano



Prepared for

Minnesota Ore Operations
U. S. Steel Corporation
Mountain Iron, Minnesota

July 1971
Minneapolis, Minnesota

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SEEPAGE AND STABILITY ANALYSIS OF TACONITE TAILINGS BASIN

I. Introduction

Recent environmental concerns have required an increasing number of tailing ponds for the control of mine tailings and treatment water. Many of these retention pond dikes which have been sealed in some manner to prevent water losses are being constructed with coarse taconite tailings. Although the typical tailings pond dike represents to the laymen a rather ugly pile of waste material, the embankment is a structural mass subject to failure if not properly designed by the mine engineers. Failure of a dike constructed in Northern Minnesota may not be disastrous in terms of loss of life; however, failure would cause serious financial loss as well as damage to the local environment. For these reasons care should be exercised in the design of a tailings pond dike.

This study was conducted to assist the Minnesota Ore Operations Department of U.S. Steel Corporation at Mt. Iron, Minnesota, in the design and analysis of the proposed expansion of an existing tailings pond and dike at the Minntac plant. Two aspects were worked on in detail: (1) stability analysis of the various proposed dike configurations for a wide range of values of physical properties for both the dike and the underlying materials; and (2) permeability and seepage analysis of proposed dike materials and dike configurations. The following report is divided into two sections. The first deals with the stability analysis and the second with the seepage analysis.

II. Stability Analysis

This section of the report summarizes the slope stability analysis of the tailings basin dike at Minntac. The dike as analyzed is to be composed of a core of fine tails (initially a slurry) 25 to 100 ft wide surrounded by coarse tails. The cross-section of the dike will ultimately attain a breadth of approximately 200 to 250 ft at the crest, a height of about 85 ft to 110 ft at elevation 930, and have side slopes of 2:1. The dike will be constructed over a period of years as additional storage is required.

The soil underlying the dike is muskeg and silty clay to a depth of 10 ft at some locations. Medium to dense fine sand and gravel extend to bedrock at approximately elevation 790. It is planned that the muskeg be removed before construction.

The investigation of the stability of the dike involved the determination of the permeability of the core and the weight and strength parameters of the fine and coarse tailings and the material forming the existing dike. The permeability study showed the core material was virtually impermeable compared with the coarse tails. Seepage forces on the downstream side of the dike are, therefore, considered to be negligible. The results of unit weight tests and triaxial compression tests are presented below. Since samples of the underlying sand and gravel were unavailable, this material was assumed to be cohesionless and to possess an internal friction angle, ϕ, having a value within a conservative range, 25 to 35°.

One of two different methods was used to compute the factor of safety against instability for each slope--either the Fellenius (Swedish Circle) Method or the Simplified Bishop's Method.*

A. Laboratory Test Results

The following laboratory tests were performed on the coarse tailings and the noncohesive material forming the outside shell of existing dike (Zone 2 material).

(1) Mechanical grain size analysis
(2) Specific gravity test
(3) Dry unit weight test
(4) Triaxial compression test

In addition, a dry unit weight test was performed on the fine tailings. The detailed results of all the tests may be obtained upon request and are summarized below:

1. Coarse Tailings

a. The grain size analysis showed the coarse material to be well graded.

b. The specific gravity test yielded the average specific gravity of soil solids, $G_s = 2.87$.

*See, for example, Lambe and Whitman, Soil Mechanics, Chapter 24, Wiley & Sons, New York, 1969.

c. The dry unit weight tests yielded γ_d = 125 pcf. The void ratio is E = 0.432, and therefore, the saturated unit weight is γ_t = 144 pcf.

d. The triaxial compression test showed the angle of internal friction to be ϕ=48°.

2. Fine Tailings

From a dry unit weight test, γ_d = 95 pcf. As the fine material is to be placed in a slurry, the shear strength was assumed to be zero in analyzing the slope; therefore, no shear strength test was made.

3. Zone 2 Material

a. The grain size analysis indicated the material to be a well-graded mixture of sand and gravel.

b. The specific gravity is G_s = 2.65

c. The dry unit weight test should be γ_d = 125 pcf. The void ratio is e = 0.322; therefore, the saturated unit weight is γ_t = 140 pcf.

d. The triaxial compression test indicated an angle of internal friction between 32° and 48°, depending upon the compaction. For computations ϕ = 32° was chosen.

B. Analysis of Slopes

The stability analysis was performed using two somewhat different method. The first method is that of Fellenius (Swedish Circle) in which a circular slip surface is assumed to form the boundary between that material which has yielded and that which has not yielded. If the yielded material is considered to be composed of vertical slices, it is assumed that no shear forces interact between adjacent slices. The second approach uses the Simplified Bishop's Method, which differs from the former method in that shear forces are considered to exist between the slices. Generally, Bishop's Method yields more realistic, less conservative factors of safety than does the ordinary method of slices. Under some conditions, however, such as with submerged slopes, it was more convenient to use the Fellenius Method.

Computer programs were written for each method, and were used to analyze the four typical cross sections shown in Figs. 1 through 4. The profiles shown in Figs. 1 and 2 are representative of the highest sections constructed

over deep and shallow bedrock, respectively; Fig. 3 shows a relatively low profile over deep bedrock. In Fig. 4 a section constructed over an existing dike is shown.

Stability analyses were performed considering three values of ϕ for the underlying sand and gravel. As no shear strength data was available for this material, values for ϕ for 25°, 30°, and 35° were assumed. Such a range of values is considered to be conservative. For each of the ϕ angles, Bishop's Method was used to analyze the downstream sides of the first three slopes under conditions of full saturation, but with no pore pressure. The safety factors are shown in Figs. 1 through 3 and in Table 1. The fourth slope was analyzed by the Fellenius Method, because the Bishop's Method program was not capable of considering the more complicated geometry. The safety factors are shown in Figs. 4 and 5 and in Table 1, for values of ϕ equal to 25°, 30°, and 35°, in addition to the 32° value measured in the laboratory. The minimum safety factor under conditions of zero pore pressure and $\phi = 25°$, a very conservative value, was 1.23 at Section 4. For $\phi = 32°$, however, the minimum safety factor was 1.54.

The Fellenius Method was used to analyze the upstream side of the slopes, in which full hydrostatic pressure was assumed. The corresponding safety factors are summarized in Table 1. For the submerged condition with $\phi = 25°$, the minimum safety factor was 1.17 at Section 4. For the experimentally measured value of $\phi = 32°$, however, the safety factor was 1.52.

Table 1: Safety Factors

Case*	Assumed ϕ (degrees)	Section 1	Section 2	Section 3	Section 4
1	25	1.81	2.02	1.89	1.23
2	30	2.09	2.18	2.14	1.45(1.54)**
3	35	2.35	2.25	2.37	2.68
4	25	1.69	2.10	1.54	1.17
5	30	--	--	--	1.41(1.52)**
6	35	--	--	--	1.68

*Cases 1, 2, and 3 are those under conditions of full saturation and no pore pressure, and are analyzed by Bishop's Method. Cases 4, 5, and 6 are those under submerged conditions analyzed by the Fellenius Method.

**Under conditions of $\phi = 32°$.

It may be of interest to note the effect of constructing a slope at 2.5 to 1 compared with one at 2 to 1. In Fig. 6 such a comparison is made for Section 1 for $\phi = 25^{\circ}$. An increase in the safety factor of approximately 10 per cent is realized. Figure 7 shows the safety factors for the wet side of Section 4 with a slope of 2.5 to 1. These factors may be compared with those in Fig. 5 to indicate an increase of approximately 15 per cent.

Finally, the effect of increasing the width of the core may be seen by comparing the safety factors indicated in Fig. 8 (core width = 100 feet) with those shown in Fig. 1 (core width = 25 feet). The changes in these values for Section 1 are negligible; similar results should apply to all other sections also.

C. Summary

Four typical dike sections were considered for stability analysis using either the Simplified Bishop's Method or the Fellenius Method. Each section was analyzed under conditions of either full saturation with no pore pressure or full submergence. Except for the overly conservative cases in which ϕ was taken as 25° and 30° in Section 4, all safety factors were found to be greater than 1.5. These factors could be increased as much as 15 per cent by using a slope of 2.5 to 1 rather than one of 2 to 1. Finally it was determined that increasing the width of the core has a negligible effect on the safety factors.

III. Permeability and Seepage Analysis

A. Permeability Tests

A permeameter capable of measuring the permeability of both the fine and coarse taconite tailings for a wide range of flow rates (5 to 500 cc/min) and pressure gradients (0.05 to 2500 ft/ft) was constructed. The results of the permeability tests are presented in Table 2.

Table 2

Material	Permeability ft/sec[1]	
	No compaction	Compacted
Coarse tailings	0.06	0.006
Fine Tailings[2]	--	3×10^{-7}

(1) These are average values of at least 4 tests. Based on the laboratory tests, field values may vary by a factor of ± 10 depending on the density of the in-place material and the amount of fines in the material.

(2) Material was first moistened and then compacted by hand into the permeameter. It was not possible to obtain reliable data for the fine tailings in the loose state.

B. Seepage Analysis

1. Seepage through the dike

Assuming the dike shape shown in Fig. 9 as consistent (except for thickness of center core of fine tailings) with that originally proposed by the Minnesota Ore Operations Department of the U.S. Steel at Mt. Iron, Minnesota, an analysis of the seepage through the dike was made.

Because the ratio K_{coarse} to K_{fine} would be approximately 10^4, it can be assumed that essentially all of the head loss will occur in the fine tailings. Thus the approximate phreatic surface as shown in Fig. 9 would result. Using the Dupuit's formulation, the maximum anticipated seepage quantity, Q, can be calculated using the relationship

$$Q = \text{Permeability } (K) \times \frac{H_1^2 - H_2^2}{2\,(\text{core width})} \times \text{dike length}$$

Using $K = 2 \times 10^{-6}$ ft/sec (the maximum value measured during the laboratory tests) for the fine tailings, H_1 and H_2 the head and tail water levels taken as 100 ft and 10 ft, respectively, and a core width of 100 ft, then

$$Q = 0.1 \text{ cfs } (50 \text{ gpm}) \text{ per } 1000 \text{ ft length of dike}$$

This estimate of the seepage is based on several assumption, most significant of which are:

(1) The material below the dike is impermeable.

(2) The flow through the dike is essentially horizontal.

Neither of these are true for this case; nevertheless the value of Q of 0.1 cfs is indicative of the quantity of seepage through the dike that would occur.

Considering that the above value was calculated using the maximum permeability and head possible, the average quantity of seepage would be significantly less than this maximum value, perhaps as low as .01 cfs per 1,000 ft. Thus the quantity of seepage through the dike does not appear to be a major factor in the overall seepage analysis. It should also be noted that no allowance was made for fines building up on the front face of the dike over a period of years or the infiltration of fines into the coarse material during the construction of the center core of the dike. Both of these factors would tend to further reduce the amount of seepage through the dike.

2. Seepage Under the Dike

Because the depth of the pervious material under the base of the dike and the permeability of that material are essentially unknown, only an estimate of the amount of seepage loss can be made. Based on the dike shape in Fig. 9 and considering the 100 ft core of fine material as essentially impervious, Fig. 10 was developed.

As an example of the amount of seepage that would result, assume 50 ft depth of glacial till beneath the dike with the maximum permeability of the till estimated as 4×10^{-5} ft/sec.

Then from Fig. 10 for core width/depth of pervious material = 2

$$\frac{Q}{KH} = 0.25$$

The dike will be constructed in 10 ft lifts over a period of many years. During the first phases of new construction, the dike would be only 10 ft high and thus the maximum possible head would be 10 ft. Then, using values of H = 10 ft and K = 4×10^{-5} ft/sec, Q would be approximately 0.1 cfs per 1,000 ft of dike, which is of the same order of magnitude as the maximum quantity of seepage through the dike estimated earlier.

However as the second 10 ft lift is added to the dike, the seepage under the dike will be reduced by an approximately 10 ft thick layer of fine material building up over the bottom and sides of the pond area. For example, using Fig. 9 geometry but assuming that a 10 ft thick layer of fines covers the sides and bottom of the pond area but with a head of

20 ft (see Fig. 11), then the seepage would have an estimated value of .12 cfs per 1000 ft of dike, essentially the same as previously estimated, regardless of the fact that the head has doubled. For a 100 ft high dike, assuming 80-90 ft of impounded fine tails, the estimated seepage would be 0.25 cfs.

It should be pointed out that the above values, particularly for the seepage under the dike, are only relative values and their exact magnitude depends on the actual soil conditions under the dike and the amount of fines built up on the bottom of the pond area.

However, the calculations do show that the seepage through and under the dike would be approximately the same. Both are estimated as 0.1 cfs, making the total seepage per 1000 ft of dike less than 0.25 cfs. For this reason the through dike seepage with a fine tailings core width of 25 to 100 ft would be essentially negligible as would be the seepage under the dike.

In calculating the seepage both through and under the dike very conservative values of both permeability and head were used. As a result the values estimated above are likely to be conservative by as much as a factor of 10. At this time, without extensive field data, there is no way to estimate the exact quantity of seepage more closely.

C. Infiltration of Fine Material into Coarse Material and Effluent Water Quality

During the hydraulic filling of the center portion of the dike with the fine material, a small amount of the fines will be carried into the coarse dike material. Based on laboratory studies, however, the travel distance will be less than 10 ft and usually on the order of only 1 ft. The travel distance, as expected, did vary with compaction of the coarse material, being significantly less for the highest degree of compaction. Thus the travel through the dike of the fines being hydraulically placed in the center core should not be a problem. As a result, the dike will act as an excellent filter system and remove essentially all materials from the water seeping through the dike. Only that material which is in a dissolved state would have any possibility of seeping through the dike particularly with the fine tailings center section. Underdike seepage will occur essentially as normal ground water movement with little or no suspended solids being transported.

D. Summary

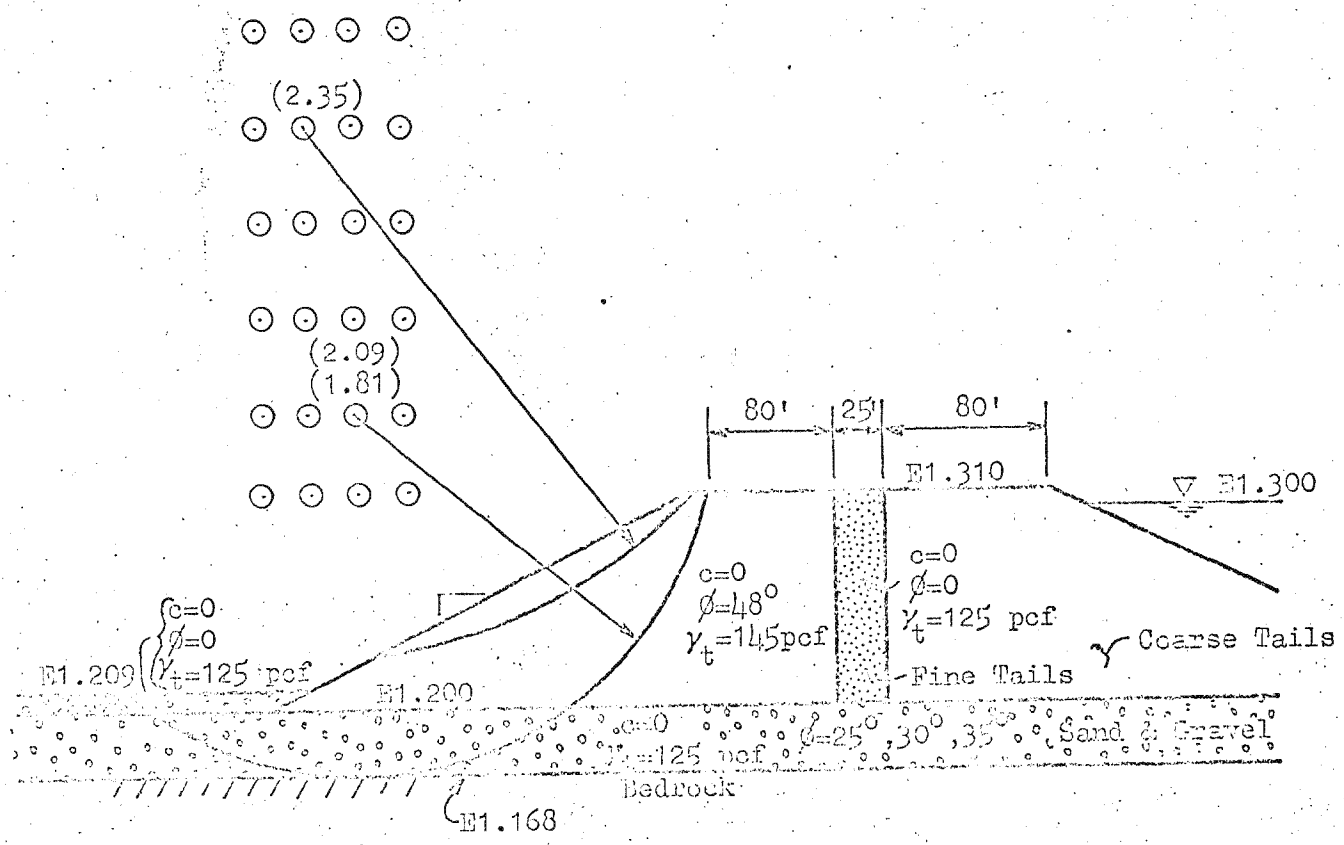
The following general conclusions can be made:

1. A center core of fine tailings of significantly less than 100 ft in width would be adequate. A core of only 10 ft width would allow a maximum seepage of 1 cfs per 1,000 ft of dike length with a realistic average perhaps as low as 0.1 cfs per 1,000 ft (assuming a 100 ft headloss through the core). Therefore, from the seepage point of view a center core of 10 to 100 ft in width is adequate.

2. Seepage losses under the dike initially will be of the same order of magnitude as the seepage loss through the dike. If it is important that seepage losses be held to an absolute minimum, (less than 0.25 cfs per 1,000 ft of dike), smaller interior dikes to collect the water for recycling to the plant may have to be considered. In making the analysis it was assumed that the dike was underlain with glacial till. If a considerably more permeable material exists, the seepage loss will be correspondingly increased. The total estimated seepage losses of less than 0.25 cfs per 1,000 ft of dike seem well within tolerable limits and, even if the underlying material were 10 times as permeable as glacial till, the seepage loss would only be slightly over 1 cfs per 1,000 ft of dike.

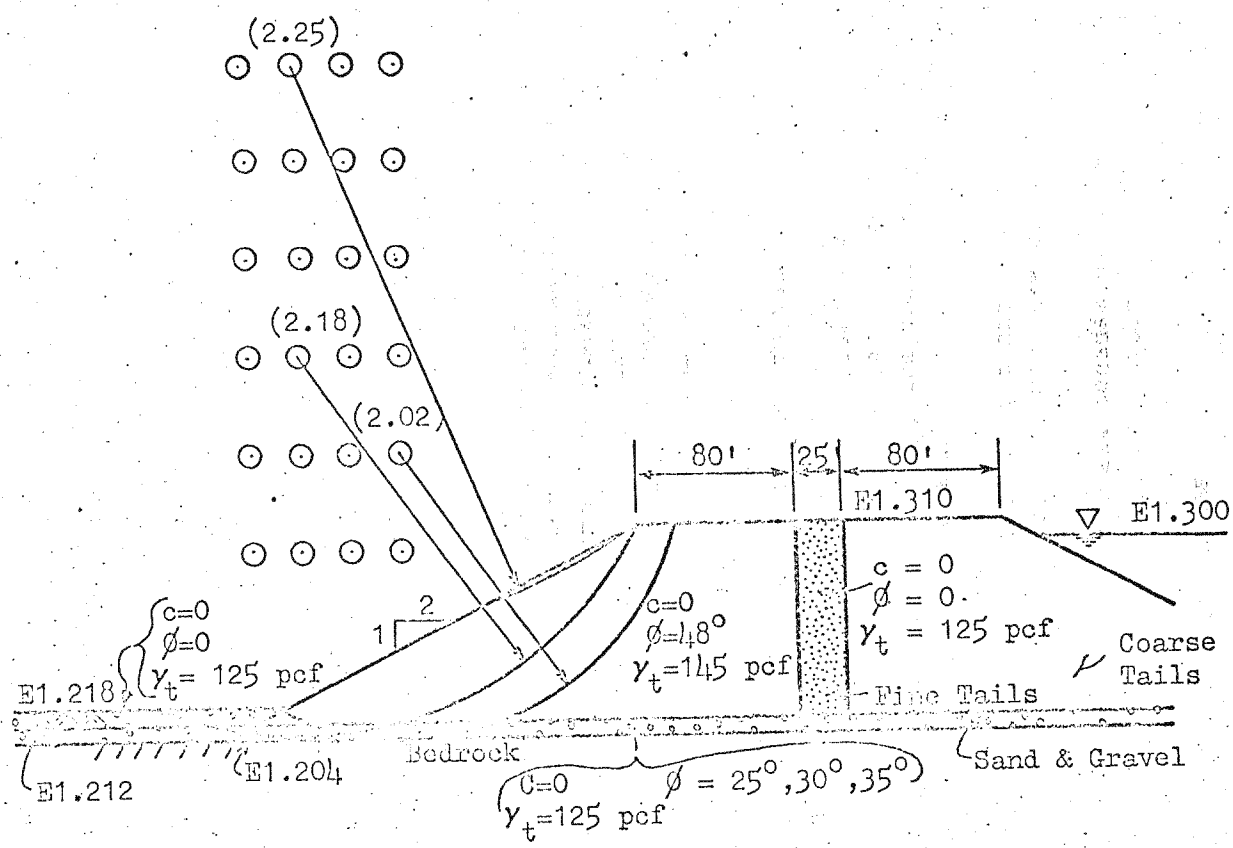
3. Infiltration of fine tailings through the coarser dike material will not occur. The fine material will usually be trapped at or near the interface between the coarse and fine tailings. The resulting water effluent (seepage) should be of excellent quality.

IV. APPENDIX



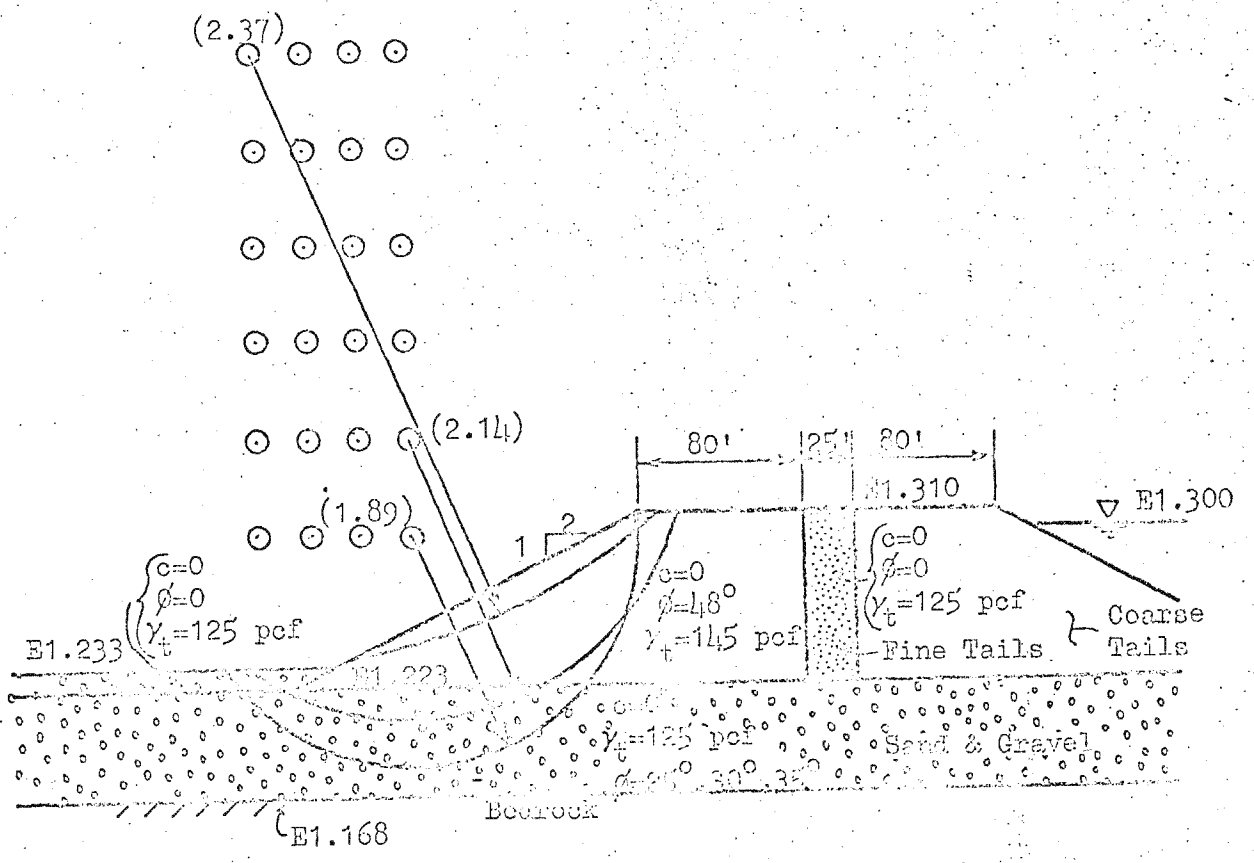
Section 1

Figure 1



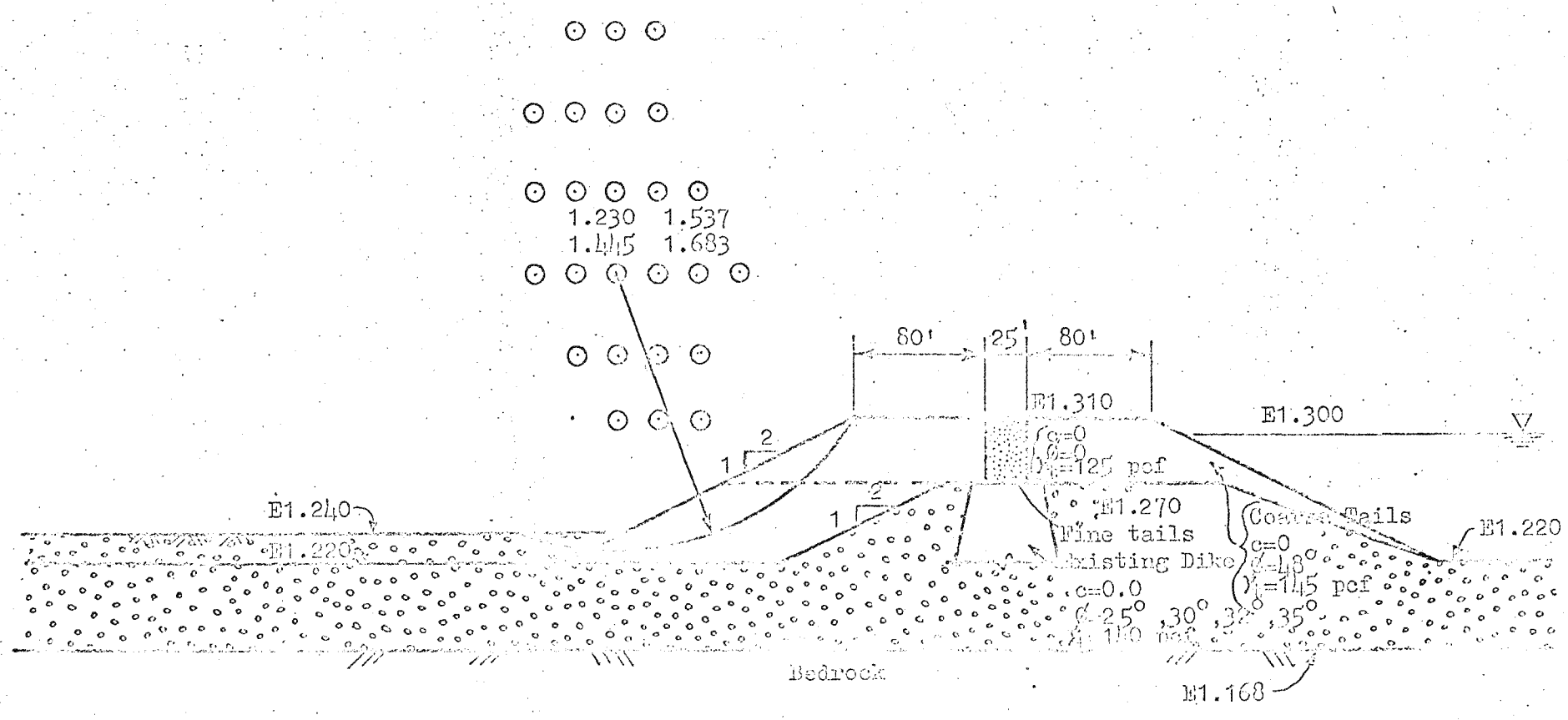
Section 2

Figure 2



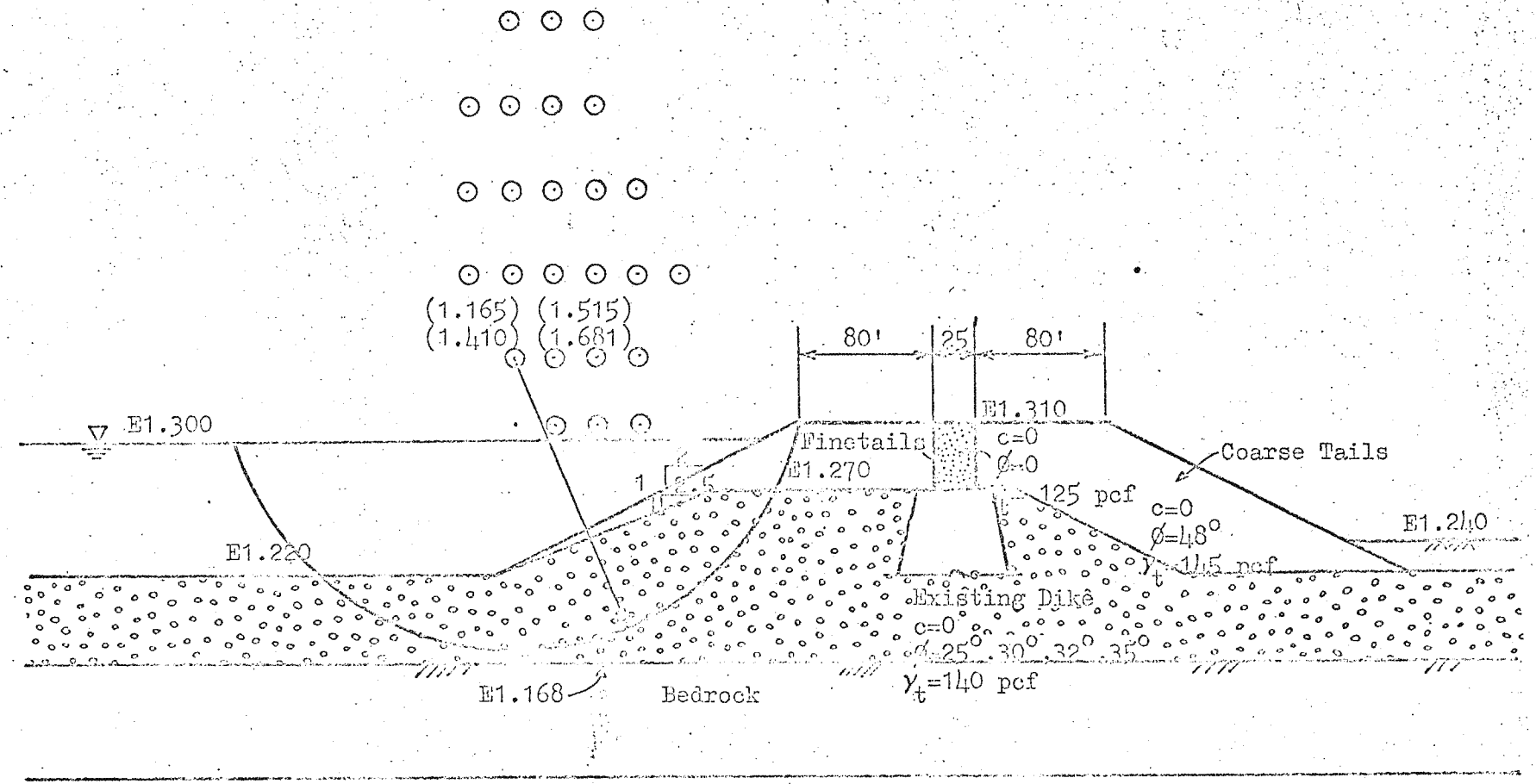
Section 3

Figure 3



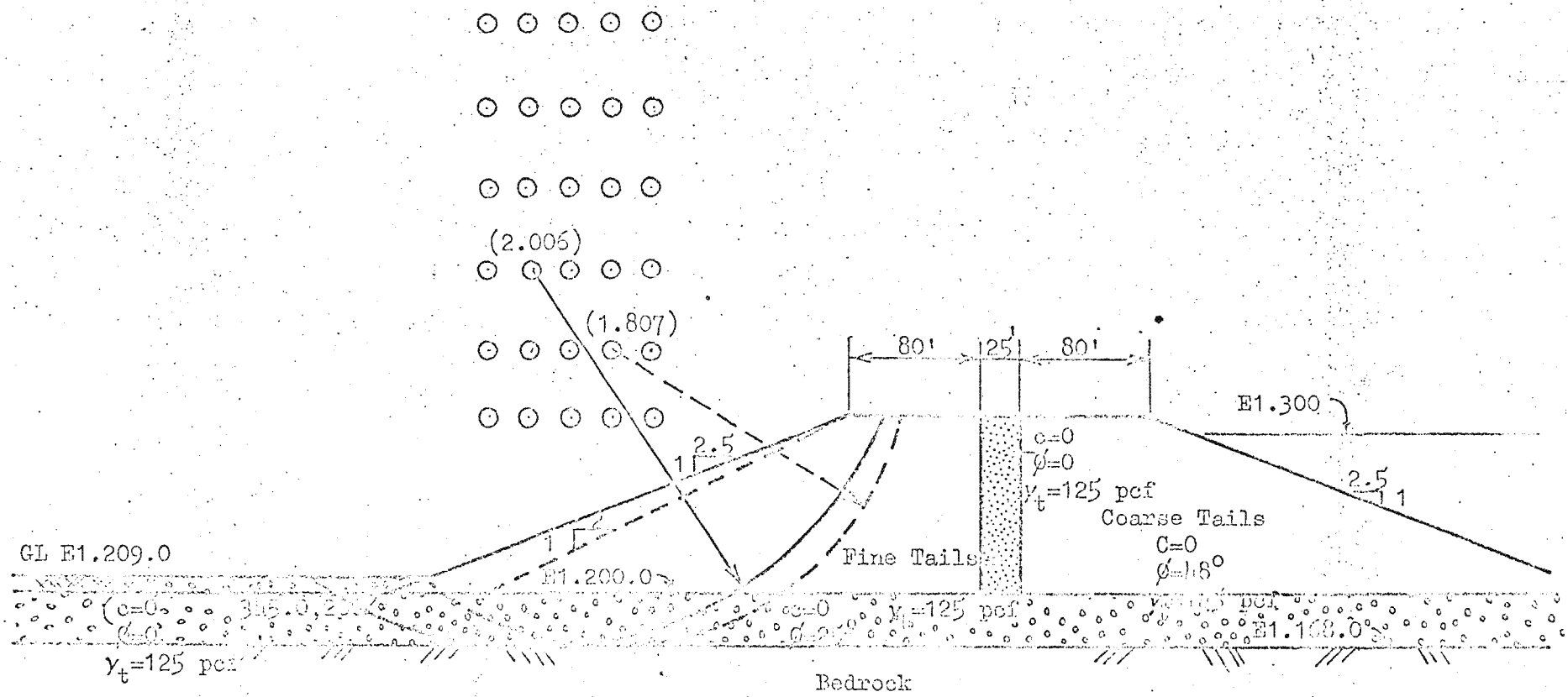
Typical Section 4
Dryside

Figure 4



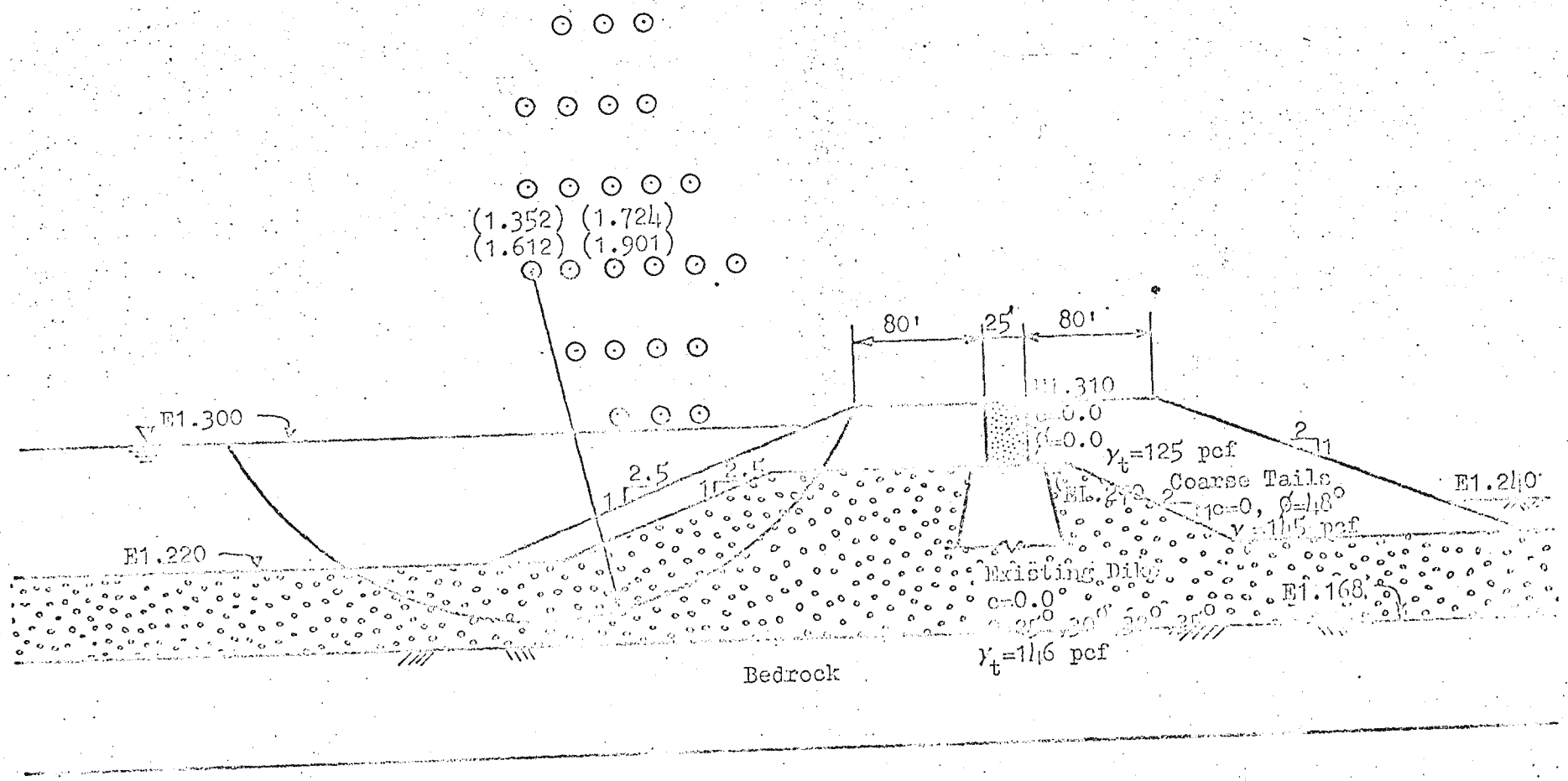
Typical Section 4
Wetside

Figure 5



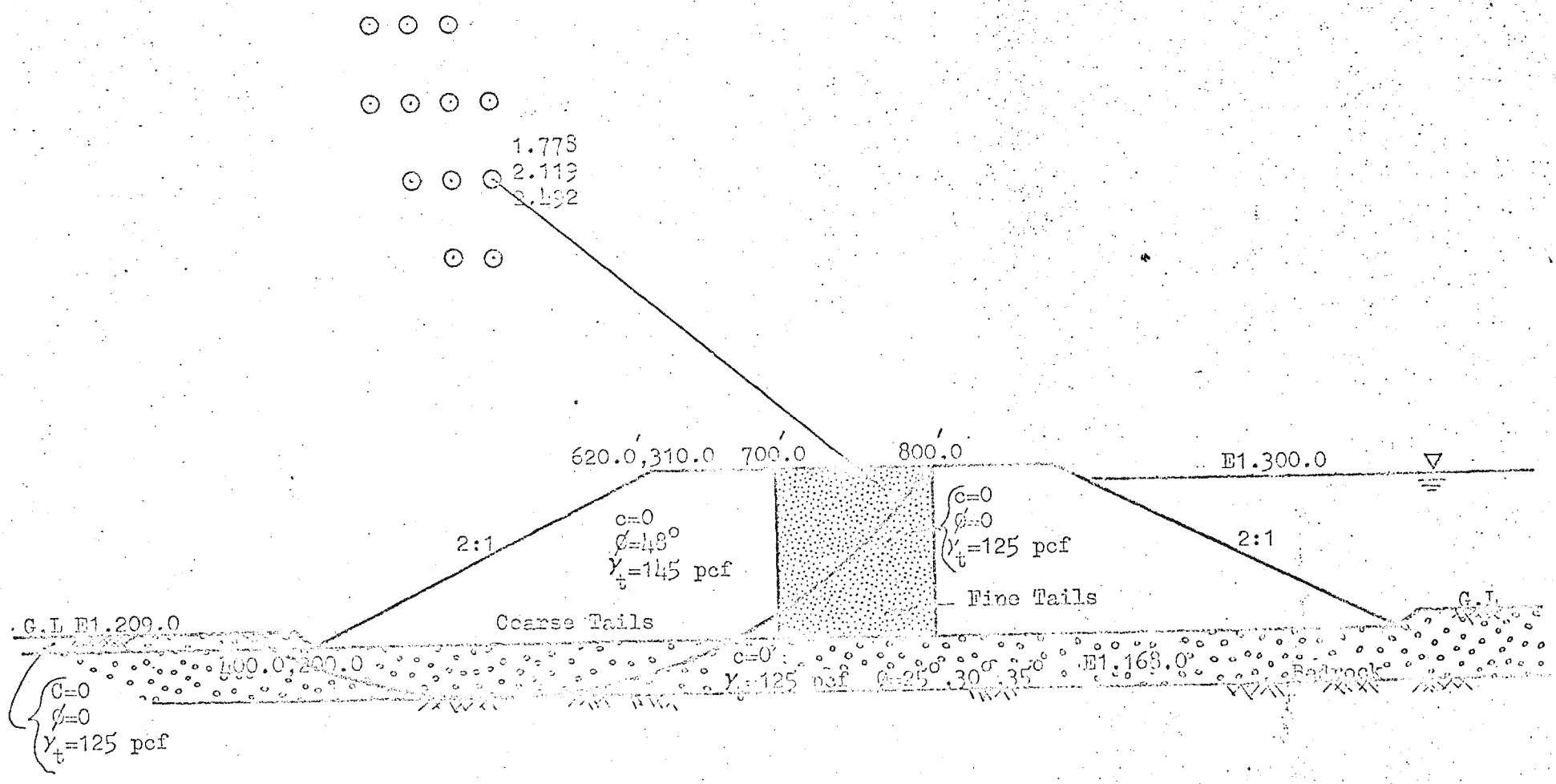
Typical Section 1

Figure 6



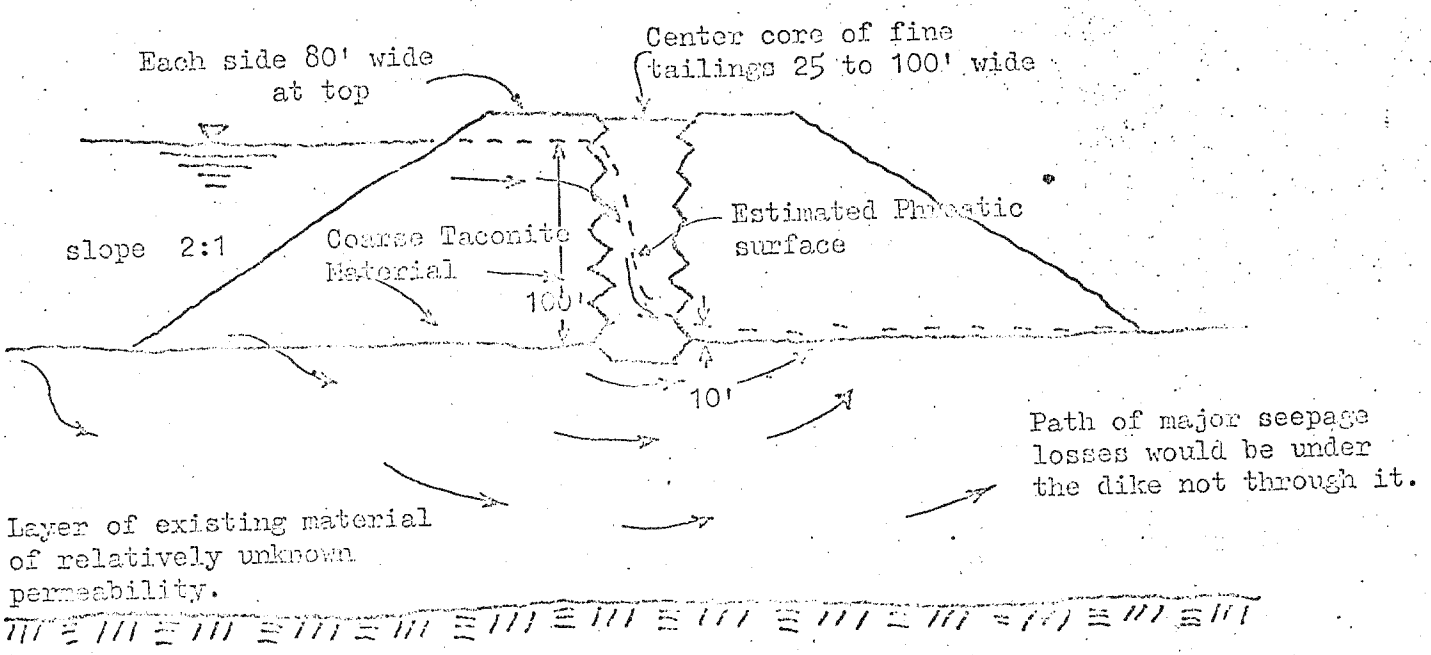
Typical Section 4
Wetside

Figure 7



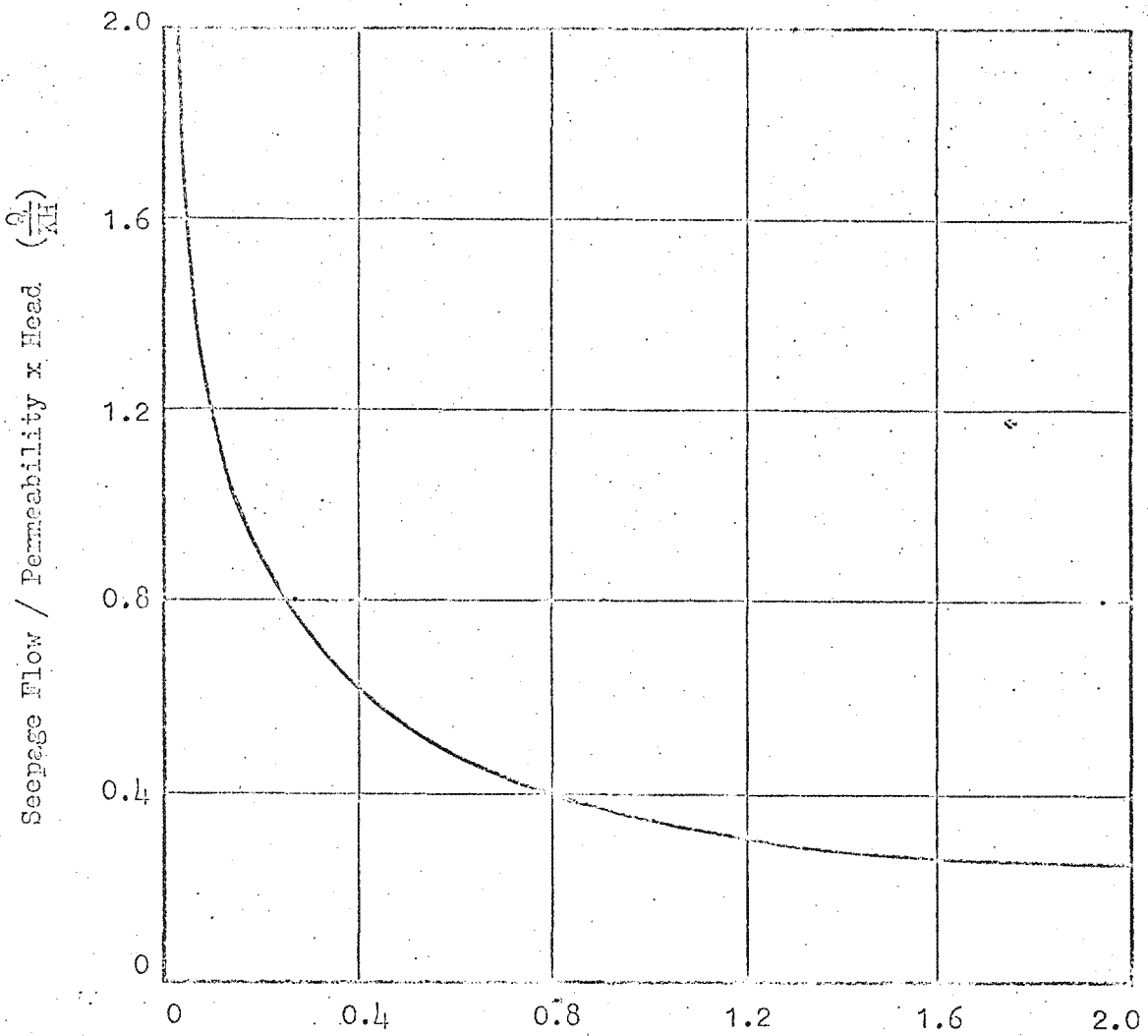
Typical Section 1

Figure 8



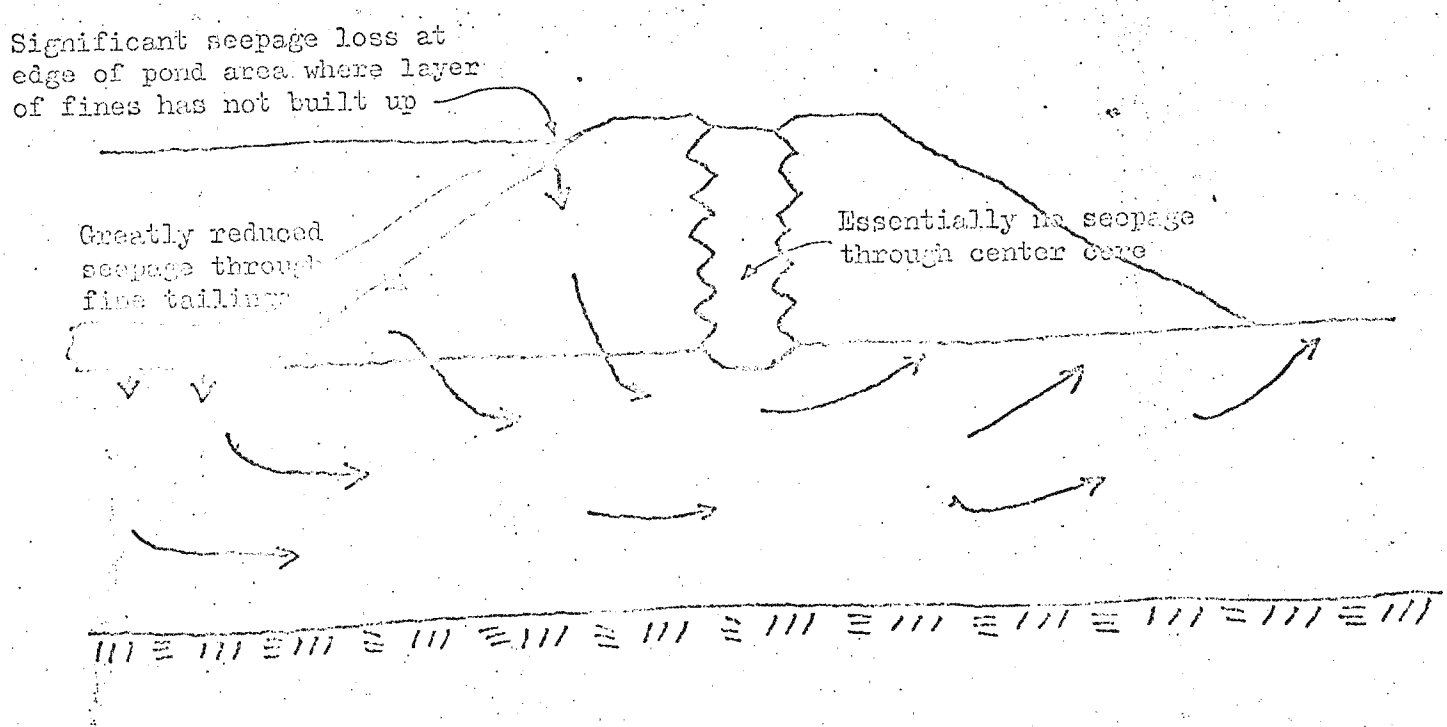
Sketch of Dike and Seepage Paths

Figure 9



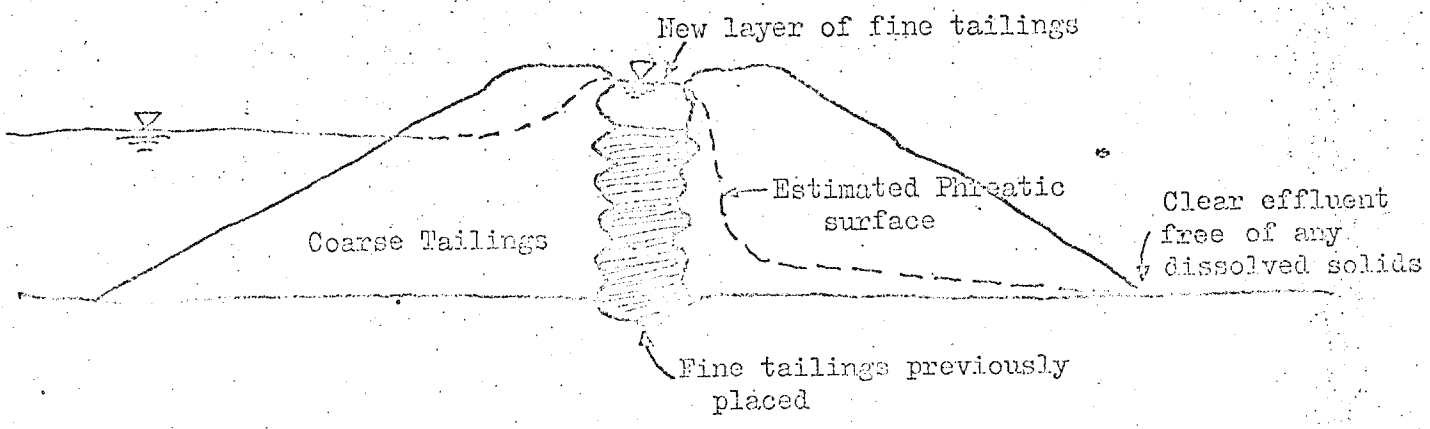
Relationship Between Seepage, Dike Geometry, and Existing Material

Figure 10



Seepage Path When Blanket of
Fine Tailings Exist on Bottom of Pond Area

Figure 11



Sketch of Phreatic Surface During Hydraulic Placement of Center Core of Fine Tailings

Figure 12

Attachment 3 – 2012 Erickson Lake and Magnetation, Inc. Jurisdictional Determinations

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

MAR 14 2012

REPLY TO
ATTENTION OF

Operations
Regulatory (2012-00632-JCB)

Mr. Joshua Zika
U.S. Steel Corporation
Minnesota Ore Operations- Minntac
P.O. Box 417
Mountain Iron, Minnesota 55768

Dear Mr. Zika:

We have reviewed information about your project to discharge dredged and fill material into the Erickson Lake concentrate area wetland. The project site is in NW ¼ of Section 27, T. 59 North, Range 18 W. (Lat. 47.573°, Long. 92.622°), St. Louis County, Minnesota, as shown on the attached drawing.

This jurisdictional determination takes into consideration the U.S. Supreme Court's decision in Solid Waste Agency of Northern Cook County v. Corps of Engineers (the SWANCC decision). The area encompassed by this jurisdictional determination is a wetland that is approximately 0.68 acres in size.

The subject water body is not a "water of the United States" because it is: (1) not a "navigable water" as defined by Federal law, (2) not an interstate water, (3) not part of a tributary system to (1) or (2), (4) not a wetland adjacent to any of the foregoing, and (5) not an impoundment of any of the above. In addition, the interstate commerce nexus to this particular waterbody is insufficient to establish Clean Water Act jurisdiction. This waterbody is therefore not subject to regulation by the Corps of Engineers under Section 404 of the Clean Water Act. Please note that a water that is not navigable under Federal law may still be "navigable" as defined by state law (and may therefore be subject to regulation by the state).

This jurisdictional determination is valid only for the project and waterbody referenced above. It is based on the Headquarters guidance available to us at this time.

PLEASE NOTE THAT THIS LETTER DOES NOT ELIMINATE THE NEED FOR OTHER FEDERAL, STATE, LOCAL, OR OTHER AUTHORIZATIONS (SUCH AS THOSE OF THE DEPARTMENT OF NATURAL RESOURCES OR COUNTY).

If you have any questions, contact Jill Bathke in our St. Paul office at (651) 290-5357. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

Jill Bathke for

Tamara E. Cameron
Chief, Regulatory Branch

Enclosure
Copy furnished to:
Kate Paul, MnDNR Lands and Minerals
Tracy Muck, Chrissy Bartovich, Matthew Caprarese - United States Steel

2012-00632-JCB, figure 1 of 1

Erickson Lake
Concentrate Area
Pot. Wetlands with 5 ft Topo

Legend

Project_Location

5' Contours (Source: Minntac)

Est. Wetland Boundary

N

0 100 200 400 Feet

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 14, 2012

B. ST PAUL, MN DISTRICT OFFICE, FILE NAME, AND NUMBER: MVP-2012-00632-JCB

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Minnesota County/parish/borough: St. Louis City: Mountain Iron
Center coordinates of site (lat/long in degree decimal format): Lat. 45.617° N. Long. -94.559° W. (NW ¼ of Sec. 27, T. 59N, R. 18W)
Universal Transverse Mercator: 15
Name of nearest waterbody: Minntac Mine Tailings Basin
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: n/a
Name of watershed or Hydrologic Unit Code (HUC): 8-digit: 09030005 (Little Fork), 10-digit: 0903000503 (Sturgeon River), 12-digit: 090300050304 (Dark River)
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: February 21, 2012
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Not established at this time.**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

☒ **Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:**

The 0.68 acre wetland in the review area is completely surrounded by packed coarse tailings roads and berms and is located within the watershed of Minntac Mine's tailings basin. Coarse and fine tailings are a byproduct of processing iron ore into taconite pellets. Course tailings are routinely used in the construction of roads and tailings basin berms and are limiting to inter-basin water flow. Although water does "seep" through the coarse tailings, this flow is infrequent and does not discharge to a water of the U.S. since all flow eventually ends up in the tailings basin.

The wetland area developed over the past 15 years as a combination of fill piles within the site and roads/berms to the north and west blocked off outlets for local surface flow. These anthropogenic alterations resulted in an isolated wetland community. The wetland boundary is abrupt with steep road/berm embankments or fills piles extending directly into open water and cattails. In a few locations where the topography is more gradual, the upland vegetation extends to the cattails. The wetland is not indicated on The National Wetland Inventory. The St. Louis County Soil Survey maps label the wetland area as a "tailings basin." Based on the landscape positions and the forest cover types in the adjoining landscape, soils that may have been present prior to mining actions were well-drained and non-hydric (Eveleth-Conic Complex and Biwabik-Greycalm). Historic aerial photography was reviewed to document the changes of vegetation, hydrology, topography and land use within the project area. This analysis is summarized below:

1961- Aerial photography taken in 1948, 1953 and 1961, shows the project area prior to extensive mining activity. These aerials show the project and surrounding land covered with a young to medium age forest of aspen *(Populus spp.)* paper birch *(Betula papyriferia)* and other hardwoods. No wetlands are visible within the project area; however, several small areas of potential wetland are located along the north boundary where the present-day road is located. To the south and west of the project area boundary, a forested drainage way extends in a north westerly direction. Although portions of the project would have drained to the west, there is no evidence that a hydraulic connection between the project area and the drainage way existed at this time.
1972 - With the exception of a small area along the southwest boundary, the 1972 aerial shows the entire site recently graded. Piles of fill, equipment tracks and recent grading activity are visible throughout the site. The present day road that forms the north boundary appears to be under construction. The building that remains today is visible on the east side of the site. The drainage way noted in the 1961 aerial is now clearly visible with most of the tree cover removed. No hydraulic connection between the project area and the drainage way is visible in the 1972 aerial. There is no evidence of wetlands within the project area.
1976 - The 1976 aerial shows continued cut and fill activity within and adjacent to the project area. The north boundary road/berm is now in place and portions of the drainage way along the west boundary are now filled in, possibly as part of berm construction around the future basin west of the project area to the north, tree clearing and recent earthwork is visible. There is no evidence of wetlands within the project area
1981 - Vegetation reestablishment within the project area is now visible with aspen regeneration on fill piles and herbaceous growth on the more level areas between piles. Outside of the project area, cut and fill work continues with additional berms and roads and dewatering channels being constructed. Water levels within the drainage way appear to be significantly higher than in previous years. Water appears to be backing into the northwest corner of the project area from the adjacent drainage way.
1989 - Tailings basin ponds are now constructed within the drainage way west of the project area. Water from the tailings basin pond/drainage way can be seen backing up into the project area (northwest corner). Depressions between fill piles (in the areas that now contain cattails) appear to be wet, but are not inundated.
2003 - The northwest 1/3 of the project area is inundated from tailings basin pond backwater. Construction of berms along the southwest side of the project area is under way. This flooded area corresponds with die back of aspen observed during the site visit.
2009 - Berms/roads now encircle the entire project area. Trees within the northwest 1/3 of the project are no longer visible, presumably due to the flooding visible in the 2003 aerial. The small depressions between the fill piles in the NW corner of the project area are inundated.
2010 - Areas inundated in 2009 can still be seen, but do not have standing water. Other that wet areas in the NW corner of site, no other wetlands are visible.

After reviewing the High Resolution National Hydrography Data Set, USGS 24K DRG, FSA aerial photos, mine specific 5-foot interval topography contours, in addition to the data sets described above, I have determined that the 0.68 acre wetland is a depressional basin with no inlets or outlets and contains no surficial hydrologic connection to waters of the United States.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☒ High Tide Line indicated by:	☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).

---

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.68 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: 5-foot topographic contour map (figure 1), USGS topographic map (figure 2), and aerial photography (figures 3-8).
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☒ Data sheets prepared by the Corps: 2012-00632-JCB Pages 1-4.
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: National Hydrography Dataset.
☒ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:1:24000 MN- Mountain Iron.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: St. Louis County.
☒ National wetlands inventory map(s). Cite name: MN NWI.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): FSA 2010, 2009, 2008, 2006, 2002, 1991, 1981, 1976, 1972, 1961, 1953, 1948.
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

The wetland in the review area does not support a link to interstate or foreign commerce. It is not used by interstate or foreign travelers for recreation or other purposes and it does not produce fish or shellfish that could be taken and sold in interstate or foreign commerce. The wetland is not known to be used for industrial purposes by industries in interstate or foreign commerce. The wetland has been determined to not be jurisdictional under the Clean Water Act because of the lack of links to interstate or foreign commerce to serve as a basis for jurisdiction. The wetland lies entirely within St. Louis County, Minnesota in the Rainy River Major Watershed.

2012-00632-JCB, figure 1 of 7.

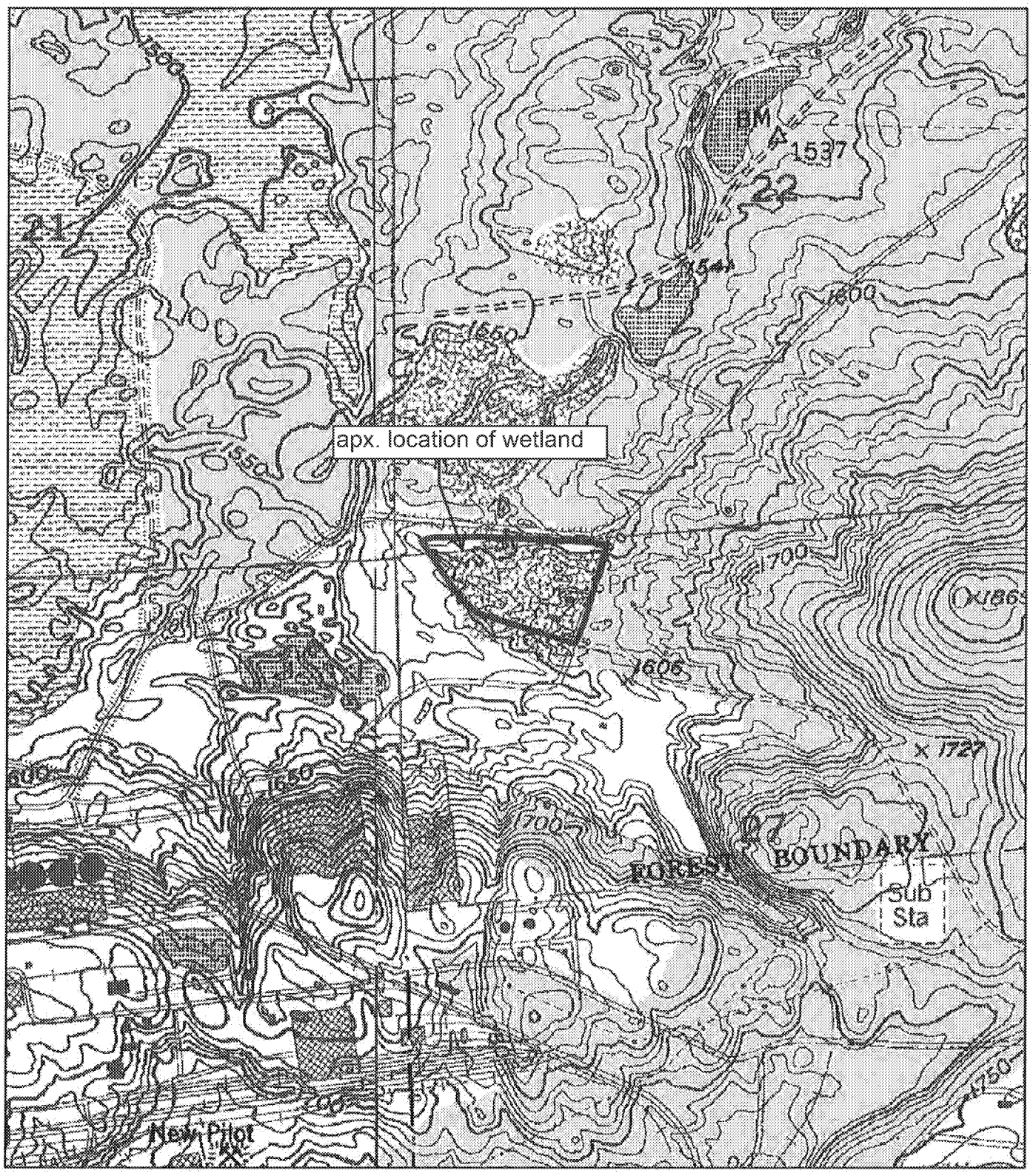
Erickson Lake
Concentrate Area
Pot. Wetlands with 5 ft Topo

Legend

- Project_Location
- 5' Contours (Source: Minntac)
- Est. Wetland Boundary

0

0 100 200 400 Feet



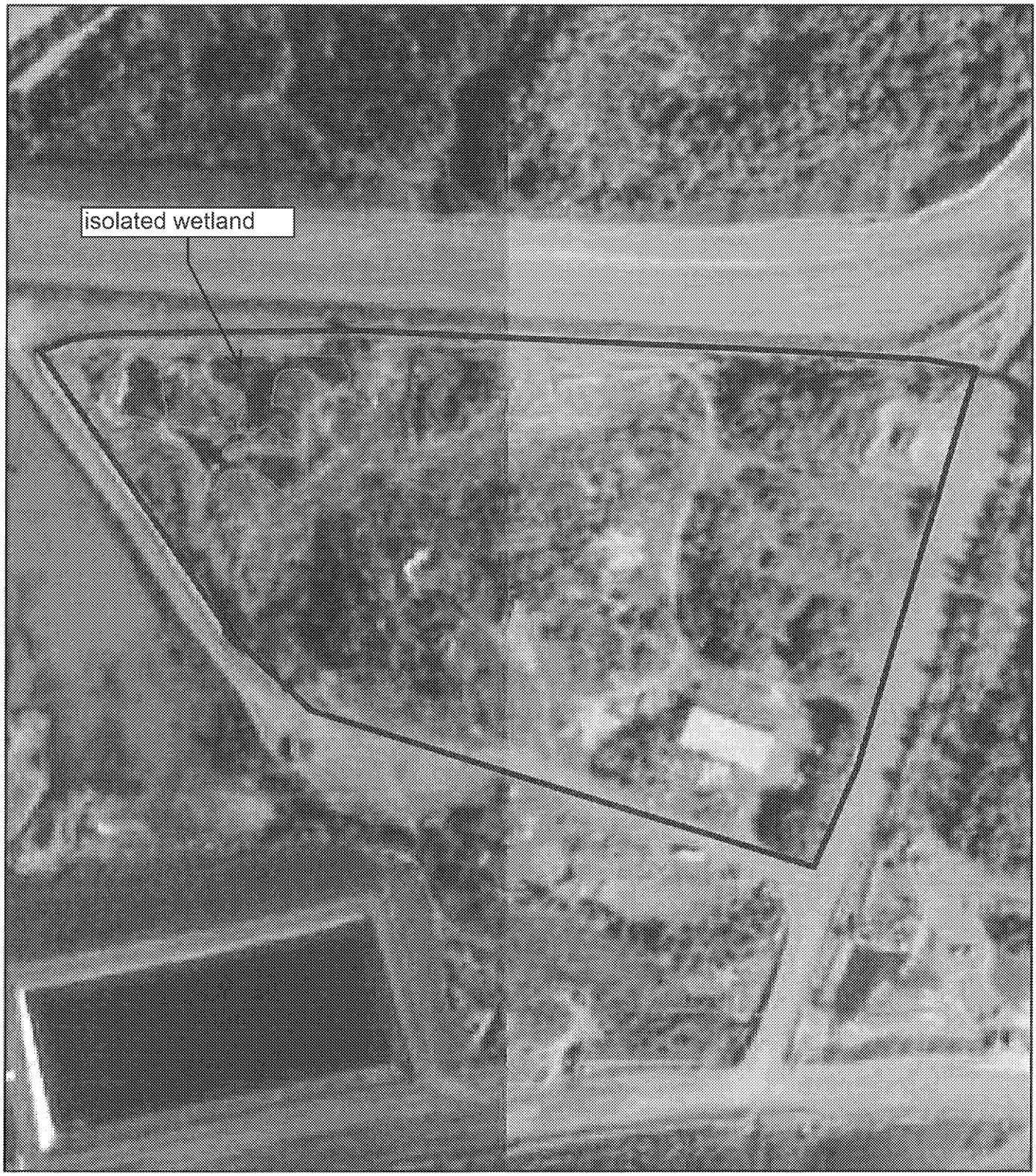
2012-00632-JCB, figure 2 of 7.

Erickson Lake
Concentrate Area
USGS Topographic Map

Legend

Project_Location

0 500 1,000 2,000 Feet



2012-00632-JCB, figure 3 of 7.

Erickson Lake
Concentrate Area
Potential Wetlands

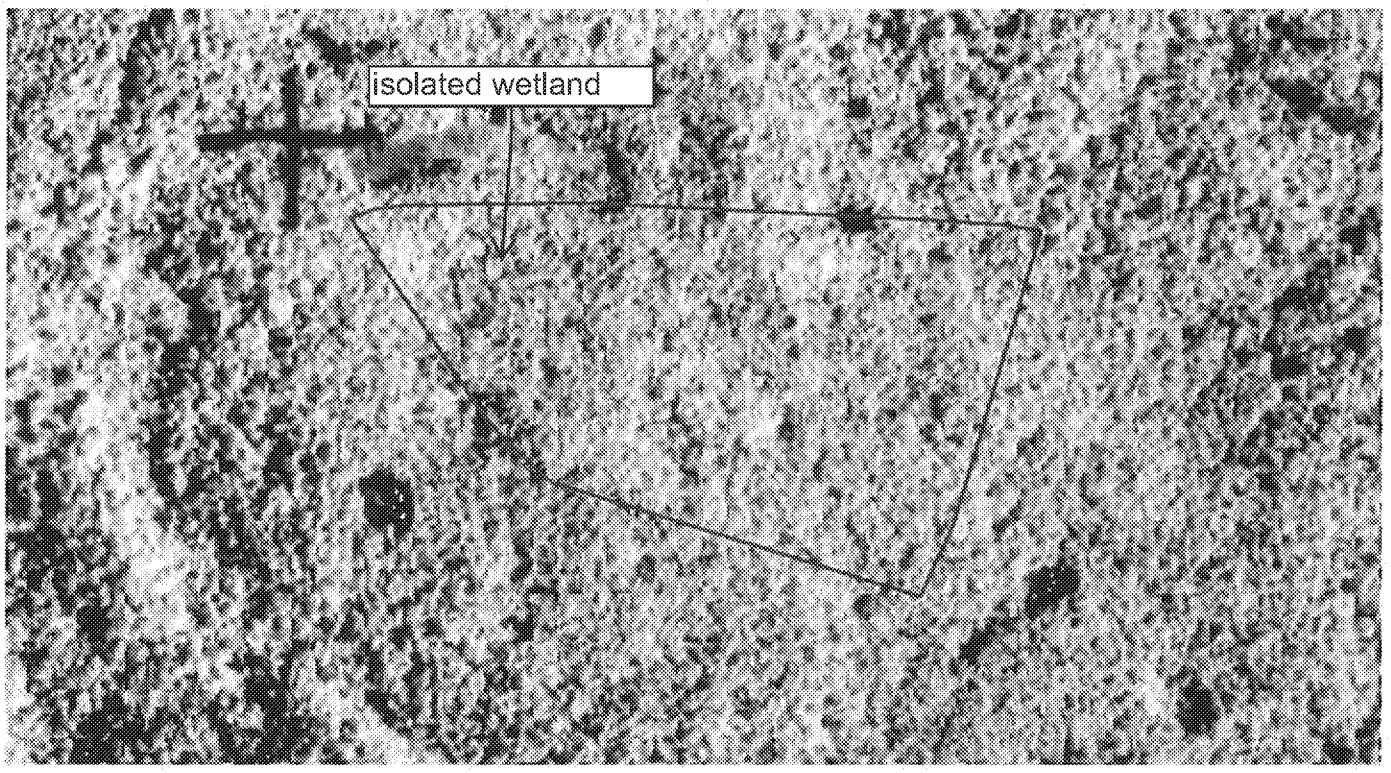
Legend

Project_Location

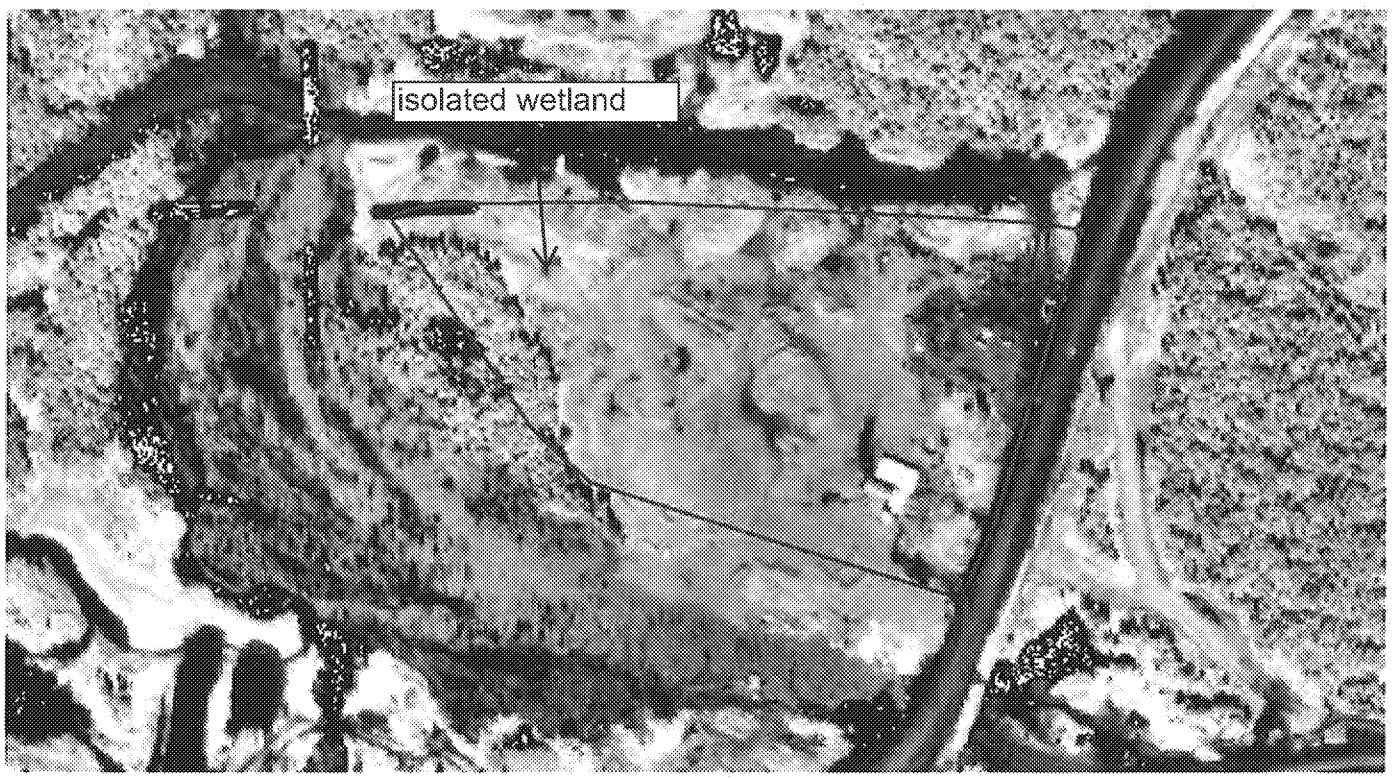
Est. Wetland Boundary

0 100 200 400 Feet

1961



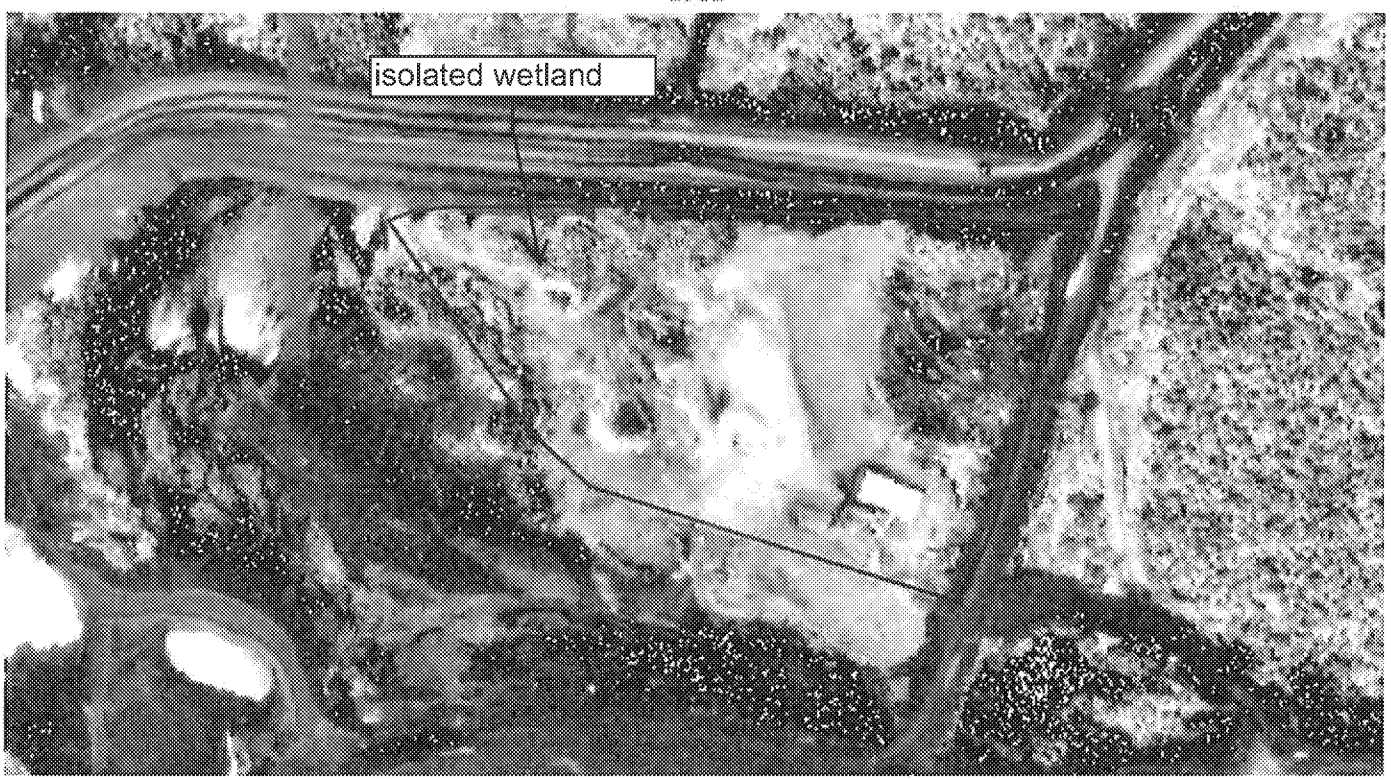
1972



2012-00632-JCB, figure 4 of 7.

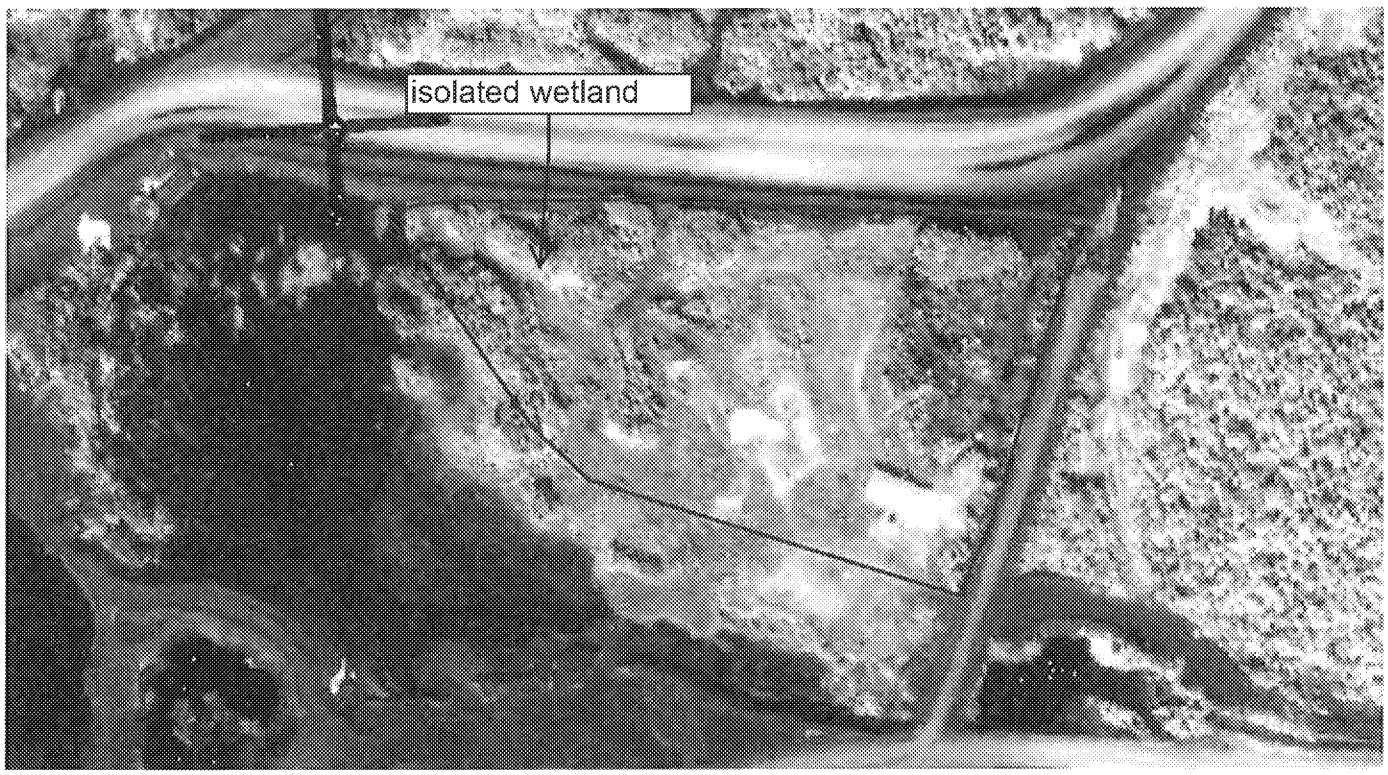
1976

1981

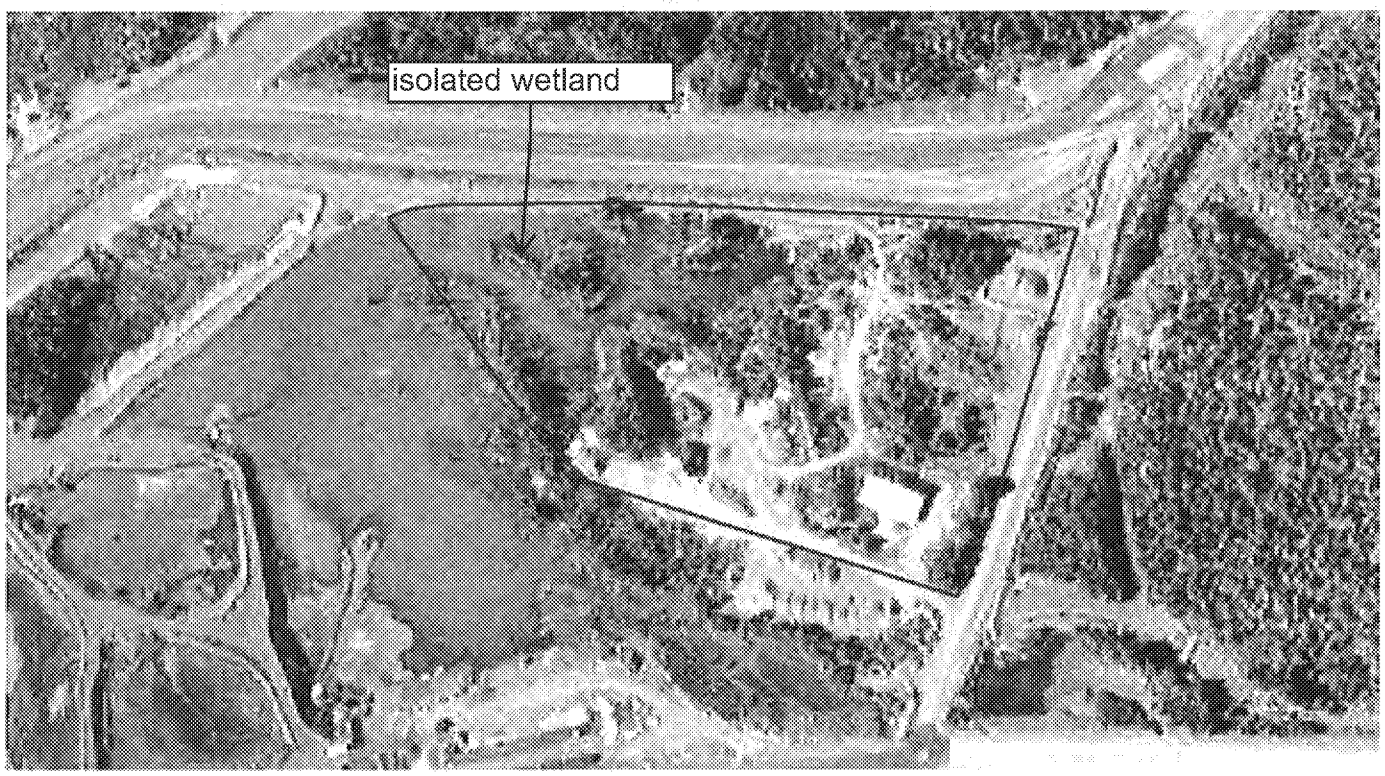


2012-00632-JCB, figure 5 of 7.

1989

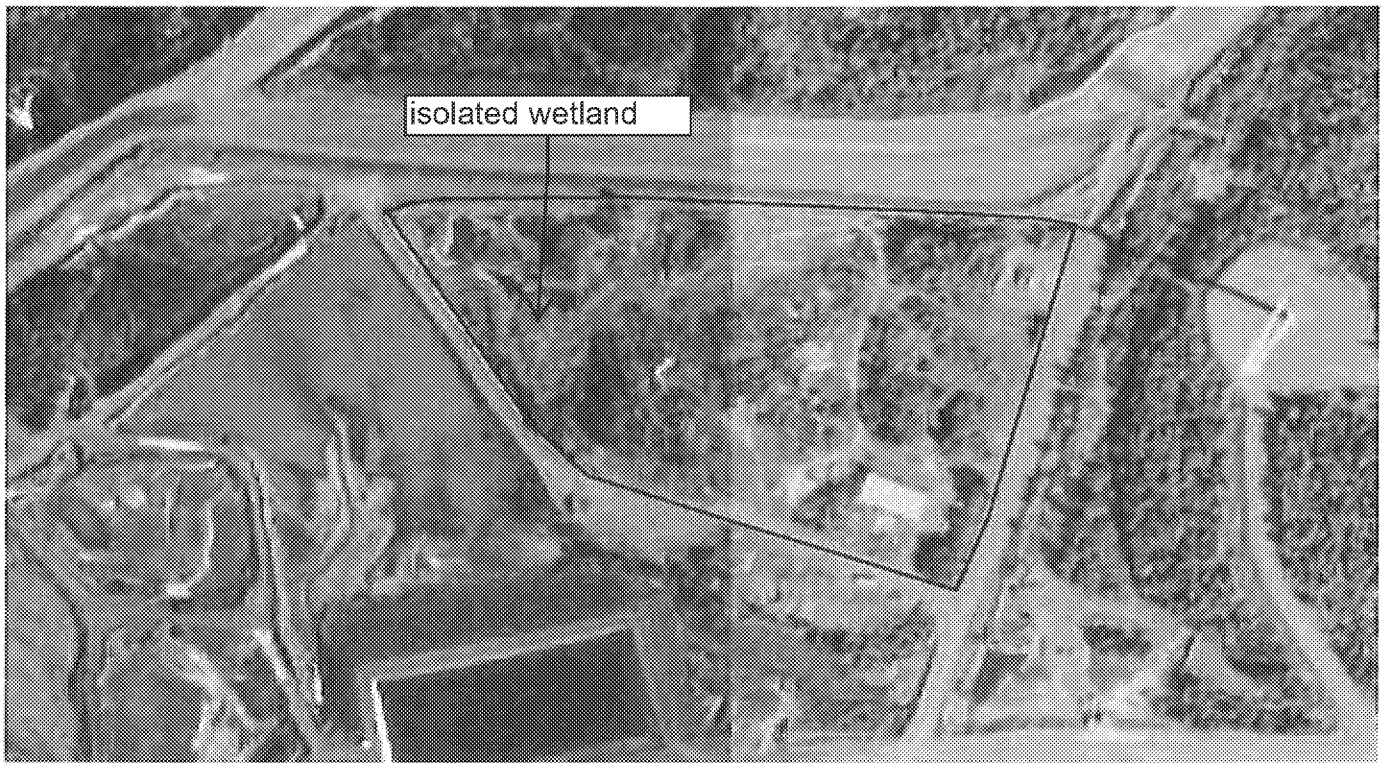


2003

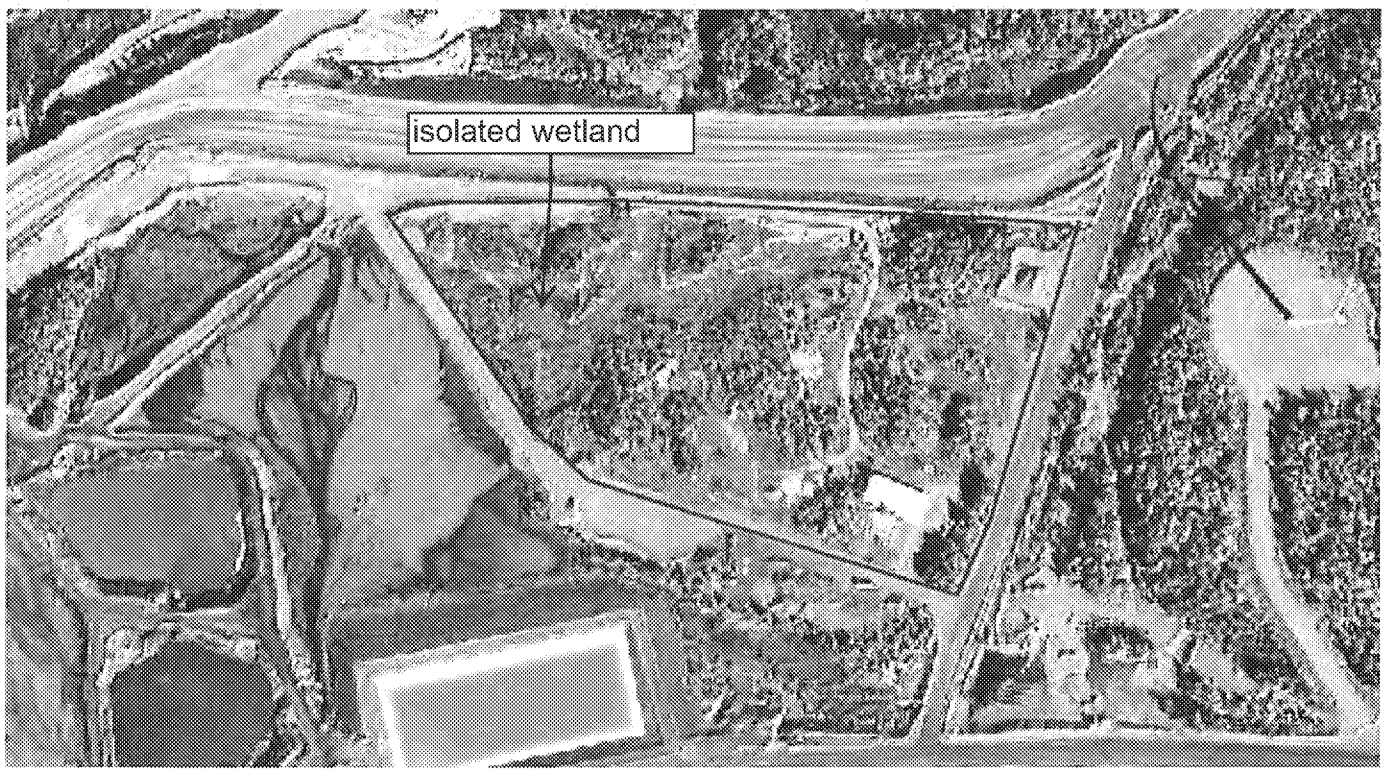


2012-00632-JCB, figure 6 of 7.

2009



2010



2012-00632-JCB, figure 7 of 7.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

March 5, 2012

REPLY TO
ATTENTION OF

Operations
Regulatory (2011-03543-WAB)

Mr. Lucas Lehtinen
Magnetation, Inc.
102 NE 3rd Street, Suite 120
Grand Rapids, MN 55744

Dear Mr. Lehtinen:

We have reviewed information about your project involving the reprocessing of tailings material in the Arcturus mine tailings basin. The original Arcturus basin was subdivided into five subbasins. The Arcturus basin reviewed for this action is comprised of the remaining four sub-basins (#2-5), with wetlands and/or ponds developed in each. The majority of the basin is located in the N ½, S13, T56N, R24W, and the N ½, S18, T56N, R18W, Itasca County, Minnesota, as shown on the attached drawing or map. The jurisdictional status of the wetland areas developed within the tailings basin has been evaluated by the Corps of Engineers.

This jurisdictional determination takes into consideration the U.S. Supreme Court's decision in Solid Waste Agency of Northern Cook County v. Corps of Engineers (the SWANCC decision). The area encompassed by this jurisdictional determination includes the four tailings basin wetlands (TBW) illustrated on the attached drawing. The approximate sizes of the four wetland areas are: TBW 2 – 2.0 acres; TBW 3 – 7.3 acres; TBW 4 – 15.2 acres; and, TBW 5 – 14.1 acres.

The subject water bodies are not a "water of the United States" because they are: (1) not a "navigable water" as defined by Federal law, (2) not an interstate water, (3) not part of a tributary system to (1) or (2), (4) not a wetland adjacent to any of the foregoing, and (5) not an impoundment of any of the above. In addition, the interstate commerce nexus to these particular water bodies is insufficient to establish Clean Water Act jurisdiction. These water bodies are therefore not subject to regulation by the Corps of Engineers under Section 404 of the Clean Water Act. Please note that a water that is not navigable under Federal law may still be "navigable" as defined by state law (and may therefore be subject to regulation by the state).

This jurisdictional determination is valid only for the project and waterbody referenced above. It is based on the Headquarters guidance available to us at this time.

PLEASE NOTE THAT THIS LETTER DOES NOT ELIMINATE THE NEED FOR OTHER FEDERAL, STATE, LOCAL, OR OTHER AUTHORIZATIONS (SUCH AS THOSE OF THE DEPARTMENT OF NATURAL RESOURCES OR COUNTY).

If you have any questions, contact Bill Baer in our Bemidji Regulaory field office at (218) 444-6381. In any correspondence or inquiries, please refer to the Regulatory number shown above.

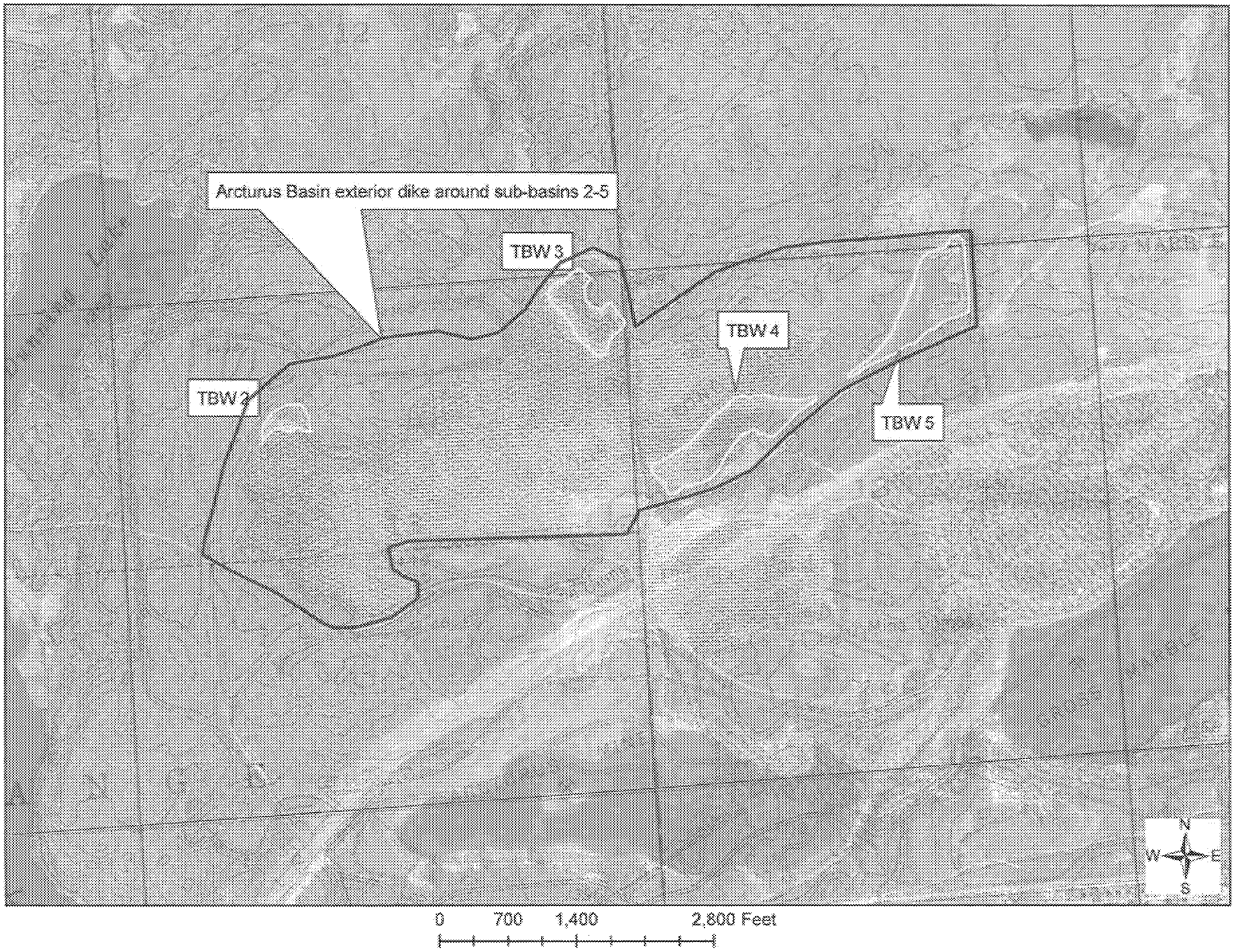
Sincerely,

William Baer
for Tamara E. Cameron
Chief, Regulatory Branch

Enclosure

Cf: Jim Gustafson, Itasca SWCD
Erika Herr, MDNR

2011-03543-WAB Arcturus Basin jurisdictional determination



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

COPY

REPLY TO
ATTENTION OF

January 10, 2011

Operations
Regulatory (2010-01906-WAB)

Mr. Larry Lehtinen
Magnetation, Inc.
Red Rock Business Center
832 First Street, Suite 130
Nashwauk, Minnesota 55769

Dear Mr. Lehtinen:

We have reviewed information about your project involving the reprocessing of mine tailings located within the Mesabi Chief #2 tailings basin. Per your request, the Corps has completed a jurisdictional determination of the pond and adjacent wetlands located within the mine tailing basin. The project site is in W ½, Sec. 36, T57N, R22W, Itasca County, Minnesota, as shown on the attached drawing or map.

This jurisdictional determination takes into consideration the U.S. Supreme Court's decision in Solid Waste Agency of Northern Cook County v. Corps of Engineers (the SWANCC decision). The area encompassed by this jurisdictional determination is a pond and adjacent wetland approximately 30 acres in size.

The subject water body is not a "water of the United States" because it is: (1) not a "navigable water" as defined by Federal law, (2) not an interstate water, (3) not part of a tributary system to (1) or (2), (4) not a wetland adjacent to any of the foregoing, and (5) not an impoundment of any of the above. In addition, the interstate commerce nexus to this particular waterbody is insufficient to establish Clean Water Act jurisdiction. This waterbody is therefore not subject to regulation by the Corps of Engineers under Section 404 of the Clean Water Act. Please note that a water that is not navigable under Federal law may still be "navigable" as defined by state law (and may therefore be subject to regulation by the state).

This jurisdictional determination is valid only for the project and waterbody referenced above. It is based on the Headquarters guidance available to us at this time.

PLEASE NOTE THAT THIS LETTER DOES NOT ELIMINATE THE NEED FOR OTHER FEDERAL, STATE, LOCAL, OR OTHER AUTHORIZATIONS (SUCH AS THOSE OF THE DEPARTMENT OF NATURAL RESOURCES OR COUNTY).

If you have any questions, contact Bill Baer in our Bemidji Regulatory field office at (218) 444-6381. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

William Baer
for

Tamara E. Cameron
Chief, Regulatory Branch

Enclosure

Cf: Matt Johnson, Itasca County SWCD
Erika Herr, MNDNR

2010-01906-WAB Magnetation Mesabi Chief #2 basin
2009 aerial photo

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION
A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 1/10/2011

B. ST PAUL, MN DISTRICT OFFICE, FILE NAME, AND NUMBER: Magnetation Inc. Mesabi Chief #2, 2010-01906-WAB

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: MN County/parish/borough: Itasca City:
Center coordinates of site (lat/long in degree decimal format): Lat. 47.37269° N, Long. -93.08418° W.
Universal Transverse Mercator:
Name of nearest waterbody: Welcome Creek (1,200 feet from site)
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): Prairie-Willow. Minnesota.
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: 11/15/2010
☒ Field Determination. Date(s): 10/27/2010

SECTION II: SUMMARY OF FINDINGS
A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. Waters of the U.S.
   a. Indicate presence of waters of U.S. in review area (check all that apply): [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. Identify (estimate) size of waters of the U.S. in the review area:
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. Limits (boundaries) of jurisdiction based on: Pick List

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):[3]

☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **An approximate 30-acre wetland area has developed on top of tailings contained within the Mesabi Chief #2 mine process and waste facility, following the cessation of mining and waste disposal in the early 1960's. The mine waste is estimated to range in thickness from 10 to 40 feet, depending on location in the basin. The wetland area that developed on top of the mine waste consists of varying wetland plant communities, including approximately 14 acres of open water pond surrounded by shallow marsh. The shallow marsh transitions into forested wetlands as you progress towards the upland. The wetland complex is isolated from downstream wetlands or waters by the waste containment berm completely surrounding the site. The approximate 30-acre wetland is located at the southern portion of the waste impoundment, where the lowest surface elevation exists in the containment structure. The tailings basin is approximately 208 acres in size. The mine tailings were delivered to the site via a water slurry pipeline. The water was then recycled back for continued use. The recycle pump was located in the SW corner of the impoundment where the containment dike is currently 8-10 feet higher in elevation than the water surface. The berm contains all water within the structure.**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. **Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.**

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

[3] Supporting documentation is presented in Section III.F.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

(i) **General Area Conditions:**
Watershed size: Pick List
Drainage area: Pick List
Average annual rainfall: inches
Average annual snowfall: inches

(ii) **Physical Characteristics:**
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through Pick List tributaries before entering TNW.

Project waters are Pick List river miles from TNW.
Project waters are Pick List river miles from RPW.
Project waters are Pick List aerial (straight) miles from TNW.
Project waters are Pick List aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Describe flow regime:
Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**
- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**
(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Pick List. Explain:

Surface flow is: Pick List
Characteristics:

Subsurface flow: Pick List. Explain findings:
- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are Pick List river miles from TNW.
Project waters are Pick List aerial (straight) miles from TNW.
Flow is from: Pick List.
Estimate approximate location of wetland as within the Pick List floodplain.

(ii) **Chemical Characteristics:**
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**
- ☐ Riparian buffer. Characteristics (type, average width):

[7] Ibid.

☐ Vegetation type/percent cover. Explain:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis: Pick List
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

☐ TNWs: linear feet width (ft). Or, acres.
☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters:

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters:
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☒ Other: (explain, if not covered above): **The wetland complex has been determined to not be jurisdictional under the CWA because it lacks a link to interstate commerce sufficient to serve as a basis for jurisdiction. The wetland developed on top of mine waste contained in a waste disposal area.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☒ Lakes/ponds: 14 acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☒ Wetlands: 16 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. **SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Survey point data.
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas:
  - ☒ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, MN-SILICA.

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

- [x] USDA Natural Resources Conservation Service Soil Survey. Citation: WebSoilSurvey.
- [x] National wetlands inventory map(s). Cite name: ArcGIS.
- [ ] State/Local wetland inventory map(s):
- [ ] FEMA/FIRM maps:
- [ ] 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- [x] Photographs: [x] Aerial (Name & Date): 2003-2010, ArcGIS.
  or [x] Other (Name & Date): Onsite inspection 10/27/2010.
- [x] Previous determination(s). File no. and date of response letter: 2008-00444-TWP, for adjacent tailings pond.
- [ ] Applicable/supporting case law:
- [ ] Applicable/supporting scientific literature.
- [ ] Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: An approximate 30-acre wetland area has developed on top of tailings contained within the Mesabi Chief #2 mine process waste facility, following the cessation of mining and waste disposal in the early 1960's. The mine waste is estimated to range in thickness from 10 to 40 feet, depending on location in the basin. The wetland area that developed on top of the mine waste consists of varying wetland plant communities, including approximately 14 acres of open water pond surrounded by shallow marsh. The shallow marsh transitions into forested wetlands as you progress towards the upland. The wetland complex is isolated from downstream wetlands or waters by the waste containment berm completely surrounding the site. The approximate 30-acre wetland is located at the southern portion of the waste impoundment, where the lowest surface elevation exists in the containment structure. The tailings basin is approximately 208 acres in size. The mine tailings were delivered to the site via a water slurry pipeline. The water was then recycled back for continued use. The recycle pump was located in the SW corner of the impoundment where the containment dike is currently 8-10 feet higher in elevation than the water surface. The berm contains all water within the structure. The wetland complex has been determined to not be jurisdictional under the CWA because it lacks a link to interstate commerce sufficient to serve as a basis for jurisdiction.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

REPLY TO
ATTENTION OF

March 9, 2012

Operations
Regulatory (2011-03543-WAB)

Mr. Lucas Lehtinen
Magnetation, Inc.
102 NE 3rd Street, Suite 120
Grand Rapids, Minnesota 55744

Dear Mr. Lehtinen:

On March 5, 2012, the Corps of Engineers sent you a letter with the results of the approved jurisdictional determination that was recently completed for wetlands and ponds located within the Arcturus tailings basin. We just learned that the letter contained an error, so we want to address that for our records and your records. The March 5, 2012 letter incorrectly stated that a portion of the tailings basin is located in the N ½, S18, T56N, R**18**W. The correct legal description for that portion of the tailings basin is the N ½, S18, T56N, R**23**W, Itasca County.

If you have any questions, contact Bill Baer in our Bemidji Regulatory field office at (218) 444-6381. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

William Baer

for Tamara E. Cameron
Chief, Regulatory Branch

Cf: Jim Gustafson, Itasca County SWCD
Erika Herr, MDNR

Attachment 4 – NPDES / SDS Permit No. MN0057207

STATE OF MINNESOTA

Minnesota Pollution Control Agency

Industrial Division

National Pollutant Discharge Elimination System (NPDES)/
State Disposal System (SDS) Permit MN0057207

PERMITTEE:	US Steel Corp - Minntac
FACILITY NAME:	US Steel - Minntac Tailings Basin Area
RECEIVING WATER:	Dark River

CITY OR TOWNSHIP:	Mountain Iron	**COUNTY:**	St. Louis
ISSUANCE DATE:	September 30, 1987	**EXPIRATION DATE:**	July 31, 1992
MODIFICATION DATE:	**April 13, 2010**		

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to construct, install and operate a disposal system at the facility named above and to discharge from this facility to the receiving water named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7049, 7050, 7053, 7060 , 7090.3000 through 7090.3080, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, as modified on September 13, 2007. This permit expires at midnight on the expiration date identified above.

Signature: Ann Foss

For Jeff Udd, P.E., Acting Supervisor
Water Quality Permits Unit
Land and Water Quality Permits Section
Industrial Division

for The Minnesota Pollution Control Agency

Submit DMRs to:
Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Submit Other WQ Reports to:
Attention: WQ Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Questions on this permit?

- For DMR and other permit reporting issues, contact: Belinda Nicholas, 651-757-2613.
- For specific permit requirements or permit compliance status, contact: John Thomas, 218-302-6616.
- General permit or NPDES program questions, contact: MPCA, 651-282-6143 or 1-800-657-3938.

Table of Contents

Facility Description

The US Steel - Minntac Tailings Basin Area facility (Facility) is located at Section 21, Township 59 North, Range 18 West, Mountain Iron, St. Louis County, Minnesota.

The principal activity at this facility is taconite processing. At the maximum operating rate, the facility will generate 16.5 million long tons of taconite pellets per year.

The facility consists of the Minntac tailings basin, the drainage area contributing surface runoff to the basin, and all wastewater disposal systems within the area designated on the map on page 5. The contributing drainage area includes part of an overburden/rock stockpile area to the southwest of the basin, as well as part of the Minntac plant area. That portion of the plant area which drains to the basin includes the concentrator, the agglomerator, the sewage treatment plant, the lube storage area, a substation, the plant area reservoir, and part of the crushing facilities.

The Minntac plant consists of a series of crushers and screens, a crusher thickener, a concentrator, an agglomerator, and various auxiliary facilities. The concentrator utilizes a series of mills, magnetic separators, classifiers, hydroclones, hydroseparators, screens and thickeners, as well as a flotation process. Chemical additives include flocculants and various flotation reagents. The flocculants comprise Calgon M-5729, added to the crushing plant dust collector slurry at a rate of one pound per hour (lb/hr), and Calgon M-5372 or equivalent cationic homopolymers added to the concentrator tailings slurry prior to the thickening stage, at a rate of 170 lb/hr. The flotation reagents comprise: (a) an alkyl ether primary amine acetate or alkyl ether diamine acetate collector, Arosurf MG-83, Arosurf MG-83A, Tomah DA-17-5% Acetate, or equivalent (alkyl chain R no greater than C_{14}), added at a maximum rate of 295 lb/hr; (b) an alcohol frother, methyl isobutyl carbinol, Arosurf 2057, Nalflote 8848, or equivalent (mixed C_4 to C_9 aliphatic alcohols only), added at a maximum rate of 101 lb/hr; and (c) anti-foaming agents Oreprep D-202 or Nalco 7810 Antifoam, added at a maximum rate of 162 lb/hr.

The agglomerator receives the concentrate, which is then dewatered by disc filters. The filter cake is then mixed with bentonite and formed into pellets in balling drums. The pellets are dried, heated, and fired in a grate kiln, and then loaded for rail transport.

The wastewater discharges to the tailings basin comprise the following, with their estimated average rates:

Fine tailings slurry/concentrator process water	15,700 gpm
Agglomerator process water	1,700 gpm
Sewage plant discharge, covered under NPDES/SDS Permit MN0050504	40 gpm
Laboratory wastewater (neutralized)	3,650 gal/yr
Plant non-process water (wet scrubber discharge, floor wash, roof runoff, non-contact cooling water)	unknown
Runoff from plant area, stockpile areas and adjacent upland areas	unknown

The agglomerator process water, sewage plant discharge, laboratory wastewater, plant non-process water and surface runoff from the plant area enter the south side of the basin through a series of pipes and ditches to the north of the concentrator and agglomerator buildings, in Section 28. Surface runoff from the upland area to the southeast of the basin enters through a series of four culverts through the perimeter dam. Runoff from the stockpile area and upland area to the southwest of the basin enters by seepage through the perimeter dam.

An average of 15 million long tons of dry fine tailings and 7 million long tons of dry coarse tailings are disposed of each year in the tailings basin. The coarse tailings are generated from the classifier, following the first stage of milling and magnetic separation. The fine tailings are generated from the crusher thickener overflow and the tailings thickener underflow. The fine tailings slurry and concentrator process water is discharged by gravity flow through pipes from the Step I, II, and III thickeners to a series of open ditches to the Minntac tailings basin. The discharge from the flotation process is restricted to Step I thickeners. The fine tailings slurry and flotation discharge is routed to the tailings basin via one of two discharge routes (east or west). Internal waste stream WS006 is representative of the fine tailings slurry discharge to the east while WS007 is representative of the discharge to the west. The basin is segmented into several cells, and the fine tailings discharge line is periodically moved from one cell to another. A permanent pumping station located on the basin returns water to the plant site reservoir. The station is located on the east side of Cell 1 (SE ¼, Section 15). Calcium chloride is occasionally used as a chemical dust suppressant on the basin and haul roads in the facility. Some coarse tailings are used for sanding on roads in the facility during the winter, and others are sold as aggregate product.

The various basin cells are separated by dikes, each constructed of a single berm of coarse tailings placed by truck and various pieces of auxiliary equipment. Most of the perimeter dam for the tailings basin is constructed by spigotting a fine tailings slurry into the core between parallel inner and outer coarse tailings dikes; that part of the perimeter dam on the southwest side of the basin is constructed in the same manner as the interior basin dikes. The coarse tailings dikes are constructed by truck in ten foot lifts. The perimeter dam spigot lines are located on the dry side of the core; this creates a surface slope from the dry side down to the wet side, thus causing the water from the slurry to pond on the wet side of the core and seep through the wet side dike to the retained water within the disposal facility. Peat was removed from the original ground area to be occupied by the perimeter dam, and a ten foot deep key-way was dug in the core portion of this area.

A demolition debris landfill (Solid Waste Permit SW-240) is located on the southeast corner of Cell A-2. The abandoned Minntac dump site (Agency Landfill Inventory Number SL-183) is located in the southwest corner of Cell 1 (SW ¼, SE ¼, Section 21 and NW ¼, NE ¼, Section 28). Paper, lunch wastes, wood scrapes, scrap metal, mill grease, and waste oil were disposed of at this dump during its period of operation.

The basin is sited on an area of shallow (10 to 55 feet deep to bedrock) glacial and glaciofluvial deposits which are principally sand and gravel. Discreet seepage points have been identified along the toe of the perimeter dam on the west side (NW ¼, Section 18) and east side (Sections 10 and 15) of the tailings basin. Flows at the individual seepage points have been estimated at 0.02 to 0.32 million gallons per day (mgd). Two of the largest seepage points are outfall SD001 (formerly 020) on the west toe in the SE ¼, NE ¼, NW ¼, Section 18 and outfall SD002 (formerly 030) on the east toe in the NE ¼, SW ¼, NE ¼, Section 15. Drainage from the facility flows to the groundwater, the Dark River, and the Sandy River to the Little Sandy Lake and Sandy Lake. The Sandy River, Little Sandy Lake, and Sandy Lake are Class 2B, 3B, 4A, 4B, 5, and 6 waters. The Dark River is Class 2B, 3B, 4A, 4B, 5 and 6 waters in its upper reaches, and becomes Class 1B, 2A, 3B, 3C, 4A, 4B, 5 and 6 waters approximately 7 miles downstream, below Dark Lake.

Ten monitoring wells, installed to depths of 14.5 to 28.0 feet below the ground surface, are located around the tailings basin. Monitoring occurs at seven of these monitoring wells, GW003, GW004, GW006, GW007, GW008, GW009, and GW010 (formerly 603, 604, 606, 607, 608, 609, and 610).

Monitoring station SW001 (formerly 701) is located on the Sandy River at Highway 53 (USGS Station 05128400). Monitoring station SW002 (formerly 702) is located on McNiven Creek at Highway 25.

The facility also includes a wastewater treatment system for the blowdown from the Agglomerator Line wet scrubber. The wastewater treatment system includes: a scrubber water recirculation tank, a equalization/precipitation tank, lime slurry make-up and feed system, 1st stage thickener, polymer make-up and feed system, scrubber solids settling/storage pond, and all related piping and equipment.

Scrubber blowdown water from the recirculation tank is sent to the equalization/precipitation tank at an average rate of 50 gallons per minute (gpm). Lime is added at the equalization/precipitation tank to increase calcium concentrations and promote calcium sulfate (gypsum) precipitation. Settling of the precipitated solids occurs in the 1st Stage Thickener. Polymer may be added to the 1st Stage Thickener to enhance solids settling. The solids are sent to a 25 acre-foot, composite lined settling/storage pond located on-site for the dewatering, and possible ultimate disposal, of the solids generated from the treatment system. The overflow from the 1st Stage Thickener is sent to either the Concentrate Thickener or Slurry Mix Tank. Available alkalinity in the concentrate slurry converts from bicarbonate to carbonate and allows calcium carbonate precipitation. The calcium carbonate precipitate is then removed in the disc filters along with the concentrate and made into pellets. The filtrate from the disc filters is then used as process water and eventually sent to the tailings basin. The treatment system is specifically designed to achieve a "no net increase" in mass loading of sulfate and calcium to the tailings basin. Fluoride removal also occurs due to the reactive nature of fluoride with excess calcium.

Waste stream monitoring stations WS002, WS003, and WS004 are included for the scrubber wastewater treatment system. WS002 is located at the plant water make-up to the scrubber system, WS003 is located at the overflow from the 1st Stage Thickener, and WS004 is located on the concentrate slurry to the Concentrate Thickener or Slurry Mix Tank.

A minor modification was done in 2007 to include the addition of waste stream monitoring station WS005, and the revision of the requirement for "no net increase" in calcium mass loading to the tailings basin to more appropriately require a "no net increase" in hardness (calcium + magnesium) mass loading to the tailings basin. WS005 is located at the influent to the Step I Reclaim Thickener. Monitoring at WS005 is required since the Step I Reclaim Thickener can receive overflow from the 1st Stage Thickener in order to comply with the "no net increase" in hardness requirement as described in Chapter 4 of this permit.

This minor permit modification is to permit the construction of a Seep Collection and Return System (SC&R) as required by a Schedule of Compliance originally entered into by the Company and the MPCA on November 14, 2007, and as amended by Amendment No. 1 on February 25, 2010.

U. S. Steel will implement a system of year-round collection and return of tailings basin surface seepage currently reporting to the Sandy River Watershed from the toe of the Minntac tailings basin perimeter dike. An evaluation of surface seepage to the Sandy River Watershed was conducted by U. S. Steel and Barr Engineering, in March 2008 to determine the locations and estimate the rate of surface seepage. The survey revealed that surface seepage to the Sandy River is being discharged in 13 discrete locations along the east side of the tailings basin perimeter dike.

The SC&R system will consist of catch basins located in each of the 13 identified seepage locations, hydraulically connected by subsurface HDPE piping to pump stations. Each of the seepage areas will be shaped and graded to promote seepage flow to the catch basins. Sheet pile cut-off walls will be installed

downgradient of each catch basin, connecting areas of higher elevation on either side of each discrete seepage location, to a depth of approximately 15 feet below existing ground level to ensure that surrounding wetlands are minimally impacted. The system will consist of two subsystems, one collecting seepage from the northern section and the other from the southern section. Each subsystem will terminate in a pump station consisting of a concrete vault containing a duplex pump system capable of returning the collected seepage back to the tailings basin clear pool reservoir.

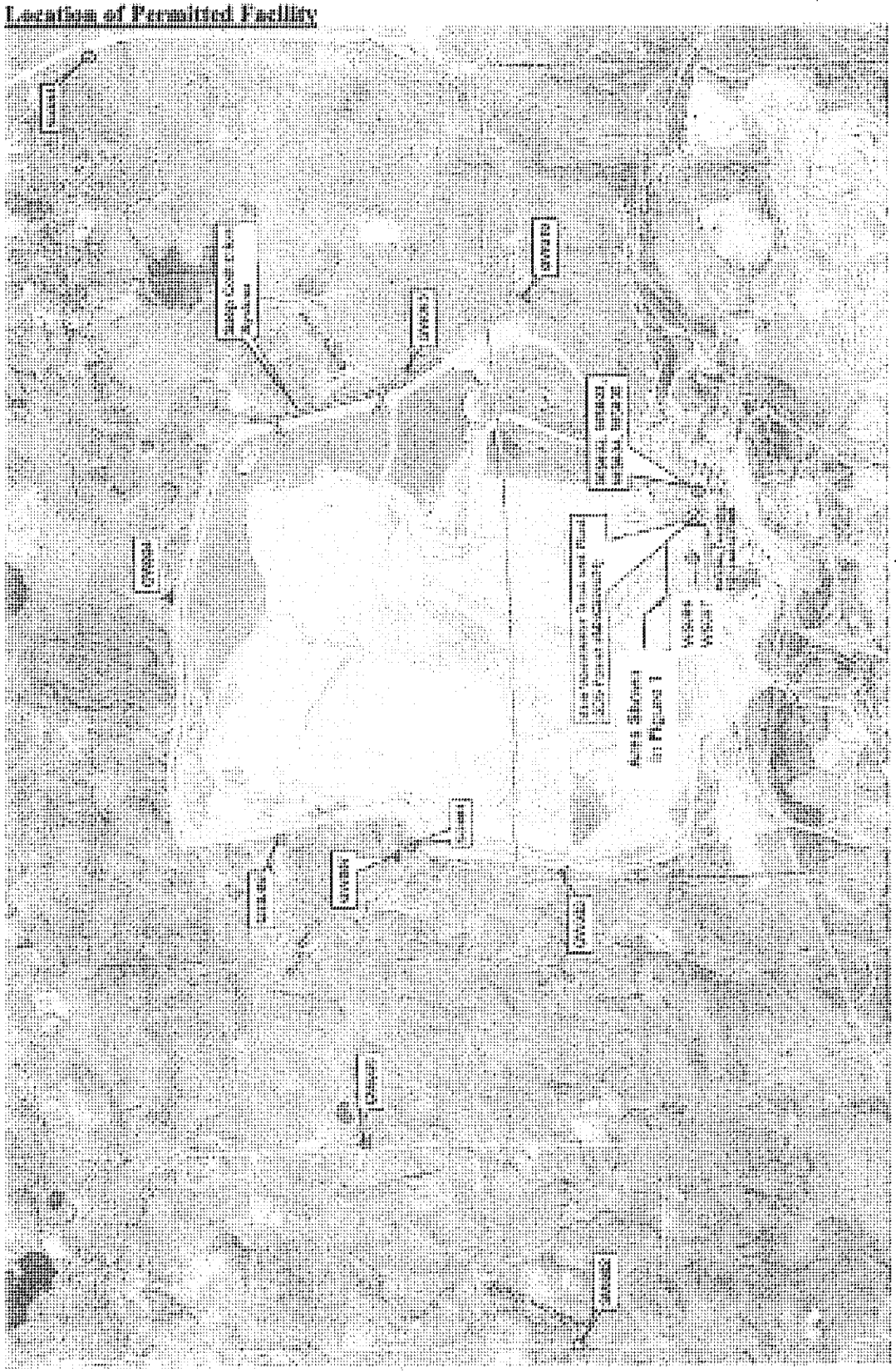
Upon completion of construction of the SC&R system and commencement of its operation, all water formerly reporting to SD002 (previously designated as Seep 030) will be captured and pumped back into the tailings basin clear pool, effectively eliminating the discharge through the currently permitted outfall.

Due to safety issues at the current internal monitoring station, WS001, the minor permit modification also includes the relocation of monitoring station WS001 to two separate monitoring stations to be identified as WS006 and WS007. The new internal monitoring stations are representative of the entire fine tailings discharge from the Concentrator which also includes discharge from the flotation process. The fine tailings slurry is discharged through one of two routes at any given time, either to the east portion of the tailings basin past WS006 or to the west portion of the tailings basin past WS007, for uniform tailings distribution and disposal.

The location of designated monitoring stations is specified on the attached "Summary of Stations and Station Locations" report.

The location of the facility is shown on the attached aerial photograph.

Location of Permitted Facility



US Steel - Minntac Tailings Basin Area
Summary of Stations

Ground Water Stations

Station	Type of Station	Local Name	PLS Location
GW003	Well, Downgradient	Monitoring Well 3	SW Quarter of the NE Quarter of the NE Quarter of Section 15, Township 59 North, Range 18 West
GW004	Well, Downgradient	Monitoring Well 4	NW Quarter of the SW Quarter of Section 4, Township 59 North, Range 18 West
GW006	Well, Downgradient	Monitoring Well 6	SE Quarter of the NW Quarter of Section 7, Township 59 North, Range 18 West
GW007	Well, Downgradient	Monitoring Well 7	NE Quarter of the NW Quarter of Section 18, Township 59 North, Range 18 West
GW008	Well, Downgradient	Monitoring Well 8	NW Quarter of the NW Quarter of Section 19, Township 59 North, Range 18 West
GW009	Well, Downgradient	Monitoring Well 9	NE Quarter of the SE Quarter of Section 10, Township 59 North, Range 19 West
GW010	Well, Upgradient	Monitoring Well 10	NE Quarter of the NW Quarter of Section 23, Township 59 North, Range 18 West

Surface Discharge Stations

Station	Type of Station	Local Name	PLS Location
SD001	Effluent To Surface Water	Seepage outfall 020	SE Quarter of the NW Quarter of Section 18, Township 59 North, Range 18 West
SD002	Effluent To Surface Water	Seepage outfall 030	SW Quarter of the NE Quarter of Section 15, Township 59 North, Range 18 West

Surface Water Stations

Station	Type of Station	Local Name	PLS Location
SW001	Stream/River/Ditch, Other	Sandy River Station 701	NW Quarter of Section 6, Township 59 North, Range 17 West
SW002	Stream/River/Ditch, Other	McNiven Creek Station 702	NE Quarter of Section 27, Township 59 North, Range 19 West

Waste Stream Stations

Station	Type of Station	Local Name	PLS Location
WS002	Internal Waste Stream	Plant water to Line 3 scrubber	NE Quarter of Section 21, Township 59 North, Range 18 West
WS003	Internal Waste Stream	1st Stage Thickener Overflow	NE Quarter of Section 21, Township 59 North, Range 18 West
WS004	Internal Waste Stream	Concentrate Slurry	NE Quarter of Section 21, Township 59 North, Range 18 West
WS005	Internal Waste Stream	Step I Reclaim Thickener influent	NE Quarter of Section 21, Township 59 North, Range 18 West
WS006	Internal Waste Stream	Concentrator Fine Tailings Slurry Discharge - Eastern Tailings Basin Disposal	NW Quarter of Section 28, Township 59 North, Range 18 West
WS007	Internal Waste Stream	Concentrator Fine Tailings Slurry Discharge - Western Tailings Basin Disposal	NW Quarter of Section 28, Township 59 North, Range 18 West

US Steel - Minntac Tailings Basin Area
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 003, GW 004, GW 006, GW 007, GW 008, GW 009, GW 010

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Amines, Organic Total	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	3
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	Apr, Jul, Oct	Measurement, Instantaneous	1 x Month	3
pH, Field	Monitor Only	SU	Single Value	Apr, Jul, Oct	Grab	1 x Month	3
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Apr, Jul, Oct	Grab	1 x Month	3
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	3
Temperature, Water	Monitor Only	Deg C	Single Value	Apr, Jul, Oct	Grab	1 x Month	3

SD 001, SD 002

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement	2 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement	2 x Month	
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement	2 x Month	
Oil & Grease, Total Recoverable (Hexane Extraction)	10	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Oil & Grease, Total Recoverable (Hexane Extraction)	15	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
pH	9.0	SU	Instantaneous Maximum	Jan-Dec	Grab	1 x Month	
pH	6.0	SU	Instantaneous Minimum	Jan-Dec	Grab	1 x Month	
Solids, Total Suspended (TSS)	30	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	60	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Maximum	Jan-Dec	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	Grab	1 x Month	

SW 001

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Single Value	Jan-Dec	Measurement, Instantaneous	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	

SW 002

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Amines, Organic Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	2 x Year	2

US Steel - Minntac Tailings Basin Area
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SW 002

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Toxicity, Whole Effluent (Acute)	Monitor Only	TUa	Single Value	Jan-Dec	Grab	2 x Year	2

WS 002

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Week	2
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	2
Sulfate, Dissolved (as SO4)	Monitor Only	ug/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	2

WS 003

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Chloride, Total	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Week	2
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Month	
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	2
pH	Monitor Only	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Week	2
Sulfate, Dissolved (as SO4)	Monitor Only	ug/L	Calendar Month Average	Jan-Dec	Grab	1 x Week	2

WS 004, WS 005

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
pH	Monitor Only	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Week	2

WS 006, WS 007

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Amines, Organic Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	2
Evaporation, Accumulated	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Month	1
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Month	
Toxicity, Whole Effluent (Acute)	Monitor Only	TUa	Single Value	Jan-Dec	Grab	1 x Year	2

US Steel - Minntac Tailings Basin Area
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Notes:
1 -- May be estimated from data at measurement stations near the facility.
2 -- See Chapter 4 Special Requirements.
3 -- Three times annually: between March 28 and May 14; between July 1 and July 31; and between October 1 and October 31.

Chapter 1. Ground Water Station Requirements - General

1. Monitoring Wells

1.1 The Permittee shall install, maintain and abandon ground water monitoring wells according to the Minnesota Water Well Construction Code, Minnesota Rules, ch. 4725. Damaged or improperly constructed monitoring wells shall be repaired or properly abandoned and replaced. Information on licensed water well contractors is available from the Minnesota Department of Health.

1.2 Each monitoring well shall be clearly numbered on the outside of the well with either indelible paint or an inscribed number.

1.3 The monitoring wells shall be sampled in accordance with "Minnesota Pollution Control Agency, Water Quality Division: Sampling Protocol for Ground Water Monitoring Wells, July 1997," Triplett, et. al. Copies of this publication are available on the internet at http://www.pca.state.mn.us/water/groundwater/wqsampling.html or may be obtained from the MPCA by calling 651-282-6143 or 800-657-3938.

Chapter 2. Surface Discharge Station Requirements - General

1. Surface Discharges

1.1 Floating solids or visible foam shall not be discharged in other than trace amounts.

1.2 Oil or other substances shall not be discharged in amounts that create a visible color film.

1.3 The Permittee shall install and maintain outlet protection measures at the discharge stations to prevent erosion.

2. Discharge Monitoring Reports

2.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

3. Winter Sampling Conditions

3.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

Chapter 2. Surface Discharge Station Requirements - General

4. Special Requirements

Seep Collection and Return System

4.1 As required by the Schedule of Compliance issued on November 14, 2007 and as amended by Amendment No. 1 on February 25, 2010, U. S. Steel will implement a system of year-round collection and return of tailings basin surface seepage currently reporting to the Sandy River Watershed from the toe of Minntac's tailings basin perimeter dike.

4.2 Upon completion of construction of the Seepage Collection and Return System (SC&R) and commencement of its operation, all water formerly reporting to SD002 will be captured and pumped back into the tailings basin clear pool, effectively eliminating the discharge through the currently permitted outfall.

The Permittee shall submit notice of initiation of operation of the SC&R system within 10 days of initiation of operation as required by the Schedule of Compliance dated November 14, 2007 and as amended on February 25, 2010.

Chapter 3. Surface Water Station Requirements - General

1. Sampling Location

1.1 Samples shall be taken at mid-stream, mid-depth. Record location, date, time and results for each sample on the supplemental Discharge Monitoring Report form.

2. Discharge Monitoring Reports

2.1 The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If flow conditions are such that no sample could be acquired, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report (DMR).

Chapter 4. Waste Stream Station Requirements - General

1. Sampling Location

1.1 Samples for Stations WS002, WS003, WS004, WS005, WS006 and WS007 shall be representative of the monitored activity.

Chapter 4. Waste Stream Station Requirements - General

2. Sampling Frequency

2.1 For WS002, WS003, WS004, and WS005, the Permittee may request a reduction in monitoring frequency from the Agency. Reduced monitoring may be allowed if it is determined that the variation of the monitored parameters within the waste stream is small. The Permittee shall be notified in writing if a reduction in monitoring has been authorized; a reduction in monitoring frequency shall not occur until written authorization has been given.

3. Special Requirements

Determination of no net increase in sulfate mass loading to the tailings basin

3.1 Sampling and analysis shall be done in accordance with the Limits and Monitoring requirements section of this permit. The following steps shall be completed during each sample event:

Step 1: Measure the dissolved sulfate concentration and flow rate of water in the scrubber makeup stream (WS002). Calculate the mass of sulfate in the makeup stream. This is the mass loading of sulfate entering the scrubber system.

Step 2: Measure the dissolved sulfate concentration and flow rate of the overflow from the calcium sulfate thickener (WS003). Calculate the mass of sulfate in the thickener overflow. This is the mass loading of sulfate leaving the scrubber system.

The calculations described above shall be compiled for each calendar year. On an annual basis, the mass of sulfate leaving the scrubber system shall be less than or equal to the mass of sulfate entering the scrubber system.

Chapter 4. Waste Stream Station Requirements - General

3. Special Requirements

Determination of no net increase in hardness mass loading to the tailings basin

3.2 Sampling and analysis shall be done in accordance with the Limits and Monitoring requirements section of this permit. The following steps shall be completed during each sample event:

Step 1: Measure the hardness (calcium + magnesium) concentration and flow rate of water in the scrubber makeup stream (WS002). Calculate the mass of hardness in the makeup stream. This is the mass loading of hardness entering the scrubber system.

Step 2: Measure the hardness concentration and flow rate of the overflow from the calcium sulfate thickener (WS003). Calculate the mass of hardness in the thickener overflow.

Step 3: Subtract the mass of hardness in the makeup stream (Step 1) from the mass of hardness in the thickener overflow (Step 2). This is the mass of hardness that must be removed to satisfy the no net increase requirement. Convert the calculated mass of hardness to the appropriate moles of calcium and magnesium.

Step 4: Measure the pH of the thickener overflow (WS003) and the pH of the concentrate slurry stream (WS004) and/or the influent to the Step I Reclaim Thickener (WS005). Using the difference between the pH of the thickener overflow and the appropriate slurry stream(s) and the flow rate of the thickener overflow, calculate the mass of excess hydroxide ions that are present in the thickener overflow (which will convert bicarbonate in the concentrate stream to carbonate). Convert the mass to moles of hydroxide ions.

The calculations described above shall be compiled for each calendar year. On an annual basis, the number of moles of excess hydroxide ion (Step 4) must be equal to or greater than the number of moles of excess calcium and magnesium (Step 3) in the thickener overflow stream.

3.3 If the oveflow from the calcium sulfate thickener is sent to both the Concentrate Thickener (or Slurry Mix Tank) and the Step I Reclaim Thickener in the same reporting period, the mass of excess hydroxide ions present in the thickener overflow (Step 4 above) shall be total of the individual calculations based on the pH of the each slurry stream and the average flow rate of the thickener overflow to each location during the reporting period.

3.4 As part of the Annual Pollution Control Report, as required in Chapter 6, Requirement 1.3, to be submitted by February 14 of each year, submit a summary of the Line 3 scrubber wastewater treatment system monitoring activities and calculations for the preceding calendar year. The submittal shall include the determination of compliance with the no net increase in mass loading from the Line 3 scrubber wastewater treatment system. If compliance with the no net increase in the mass loading of sulfate and hardness to the tailings basin has not been achieved, the submittal shall include a discussion of why compliance was not achieved, as well as a work plan and schedule, for MPCA review and approval, to achieve compliance.

Chapter 4. Waste Stream Station Requirements - General

3. Special Requirements

Toxicity Testing Requirements

3.5 The Permittee shall conduct acute toxicity testing of the waste stream from WS006 or WS007 (formerly WS001), depending upon which route of fine tailings slurry discharge is being used. Acute toxicity testing shall be conducted at least two times per year from WS006 or WS007 to represent the fine tailings slurry discharge stream. The test organisms shall be the fathead minnow (Pimephales promelas). The acute tests shall consist of a screen of 100 percent of the waste stream once every six months, beginning on the effective date of this permit.

3.6 Based upon review by the Commissioner of the toxicity test results, the permit may be reopened and subject to modification under requirements specified in Minnesota Rules Parts 7001.0170 to 7001.0190. The modified permit may include new requirements for toxicity testing, toxicity limitations, and a toxicity reduction evaluation (TRE) program.

Procedural Requirements for Toxicity Testing

3.7 1) Tests shall be conducted in accordance with procedures outlined in EPA-600/4-85-013 entitled "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms." Any circumstances not covered by this procedural manual, or that require deviation from that which is specified in the manual shall first be approved by the Commissioner.

2) The waste stream sample shall be allowed to settle for 24 hours. The sample supernatant shall then be filtered through a 0.45 um filter. The filtrate shall serve as the sample for toxicity testing.

3) The control water shall be taken from SW002 (formerly 702), and shall undergo settling and filtering as in item 2 above.

4) Analysis for amine shall be conducted on each waste stream sample and control for which a toxicity test is conducted.

5) Submittal of the toxicity testing results shall include the date of sample collection, date of the toxicity tests, enumeration of mortality in samples, and the raw data used in making the calculations. Submittal of the amine results shall include the date of sample collection, date of amine analysis, and the concentrations detected.

3.8 If acute toxicity testing at WS006 and/or WS007 or in the Minntac tailings basin indicates that the waste stream is acutely toxic, the Commissioner may require acute toxicity testing at outfalls SD001, SD002, stations GW001-GW008, or other locations designated by the Commissioner. No discharge from the facility to waters of the state shall be acutely toxic to humans or other animals or plant life, directly damaging to real property, or such as to actually or potentially preclude or limit the use of underground waters as a potable water supply.

Chapter 5. Station Requirements - Specific

1. Ground Water Stations

1.1 GW 003, GW 004, GW 006, GW 007, GW 008, GW 009, GW 010: Submit a monthly DMR monthly: due 21 days after end of each calendar month following permit issuance.

2. Surface Discharge Stations

2.1 SD 001, SD 002: Submit a monthly DMR monthly: due 21 days after end of each calendar month following permit issuance.

3. Surface Water Stations

3.1 SW 001, SW 002: Submit a monthly DMR monthly: due 21 days after end of each calendar month following permit issuance.

4. Waste Stream Stations

4.1 WS 002, WS 003, WS 004: Submit a monthly DMR monthly by 21 days after the end of each calendar month following issuance of major permit modification.

4.2 WS 005: Submit a monthly DMR monthly by 21 days after the end of each calendar month following issuance of minor permit modification.

4.3 WS 006, WS 007: Submit an annual DMR annually by February 14 of each year following issuance of minor permit modification.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.1 The Permitee shall notify the Commissioner in writing at least 180 days in advance of any expansion of the area covered by mining waste beyond that area contained within the perimeter dam for the tailings basin on the date of issuance of this permit.

1.2 The Permittee shall control surface runoff from mining waste disposal areas when such runoff has caused or is likely to cause the limits specified in the water quality standards, including but not limited to those for turbidity, to be exceeded in the following receiving waters: the Sandy River.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.3 The Permittee shall submit an Annual Pollution Control Report to the Commissioner. The annual report shall be due on February 14 of each year, and shall detail for the previous year:

a. changes in plant processing from that shown on the flow sheets submitted with the application for this permit, including rates of reagent addition;

b. changes in water balance flow from those flow data submitted with the application for this permit;

c. a current map of the tailings basin, showing all dikes, dams, and cells, and current topographic and water level elevations in the basin;

d. changes in the tailings basin operation from that described in the facility description; and

e. Line 3 scrubber wastewater treatment system submittal required in Chapter 4.

1.4 The Permittee shall summarize the following water input and output data on a monthly basis, and shall include these data with the Discharge Monitoring Reports required by this permit:

a. Precipitation depth (this may be estimated from data at measurement stations near the facility);

b. Sources and volumes of non-precipitation water inputs to the facility;

c. Lake evaporation (this may be estimated from data at measurement stations near the facility);

d. Volume discharged from outfall SD001; and

e. Volume discharged from outfall SD002.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

2. Toxic Substance Reporting

2.1 The Permittee shall notify the MPCA immediately of any knowledge or reason to believe that an activity has occurred that would result in the discharge of a toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10 or listed below that is not limited in the permit, if the discharge of this toxic pollutant has exceeded or is expected to exceed the following levels:

a. for acrolein and acrylonitrile, 200 ug/L;

b. for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol, 500 ug/L;

c. for antimony, 1mg/L;

d. for any other toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10, 100 ug/L; or

e. five times the maximum concentration value identified and reported for that pollutant in the permit application. (Minnesota Rules, pt. 7001.1090, subp. 2.A)

2.2 The Permittee shall notify the MPCA immediately if the Permittee has begun or expects to begin to use or manufacture as an intermediate or final by-product a toxic pollutant that was not reported in the permit application under Minnesota Rules, pt. 7001.1050, subp. 2.J. (Minnesota Rules, pt. 7001.1090, subp. 2.B)

Chapter 6. Industrial Process Wastewater, NPDES/SDS

3. Mobile and Rail Equipment Service Areas

3.1 Mobile equipment and rail equipment service areas in the facility shall be operated in compliance with the following:

a. The Permittee shall collect and dispose of locomotive traction sand, degreasing wastes, motor oil, oil filters, oil sorbent pads and booms, transmission fluids, power steering fluids, brake fluids, coolant/antifreeze, radiator flush wastewater and spent solvents in accordance with applicable solid and hazardous waste management rules. These materials shall not be discharged to surface or ground waters of the state.

b. The steam-cleaning of mobile equipment and rail equipment, except for limited outdoor cleaning of large drills and shovels, shall be conducted in wash bays that drain to wastewater treatment systems that include the removal of suspended solids and flammable liquids. The only washing of mobile equipment done in outside areas shall be to remove mud and dirt that has accumulated during outside work.

c. The Permittee shall not use solvent-based cleaners, such as those available for brake cleaning and degreasing, to wash mobile and rail equipment unless the cleaning fluids are completely contained and not allowed to flow to surface or ground waters of the state. Soaps and detergents used in washing shall be biodegradable.

d. Mobile and rail equipment maintenance and repairs shall not be conducted in wash bays.

e. Hazardous materials shall not be stored or handled in wash bays.

f. The Permittee shall inspect wastewater containment systems regularly, and repair any leaks that are detected immediately.

g. If the Permittee discovers that recoverable amounts of petroleum products have entered wastewater containment systems, they shall be recovered immediately and reported to the MPCA.

h. Spill cleanup procedures shall be posted in mobile and rail equipment maintenance and repair areas.

4. Polychlorinated Biphenyls (PCBs)

4.1 PCBs, including but not limited to those used in electrical transformers and capacitors, shall not be discharged or released to the environment.

5. New Proposed Dewatering

5.1 The Permittee shall obtain a permit modification before discharging from a new dewatering outfall.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

6. Application for Permit Reissuance

6.1 The Permittee shall include, as part of the application for reissuance of this permit, an updated operating plan for the basin for the next five years.

7. Special Requirements

7.1 The Permittee will be constructing a new scrubber solids settling/storage pond located in the SW 1/4 of the NW 1/4 of the NW 1/4, Section 27, T59N, R18W. The scrubber solids pond may eventually serve as a disposal pond for scrubber solids. The scrubber pond is designed in accordance with MPCA pond design and solid waste design criteria and will include a composite liner and a dewatering system to accommodate dewatering of the pond contents. At closure the pond will be capped with a liner system in accordance with MPCA solid waste capping design criteria.

The scrubber solids pond shall be constructed in accordance with the pond design plans and specifications submitted for the project and in accordance with MPCA approval conditions of the engineering plans and specifications for the pond. The final cover/cap for the pond shall be installed in accordance with the submitted plans, as described in Requirement 7.2 below, and any additional MPCA design specifications required by the MPCA at the time of pond closure.

The scrubber pond is expected to have a useful life of approximately 20 years. Dewatering of pond wastewater will occur periodically using the approved dewatering system. Water removed from the pond shall be returned to the head of the Line 3 scrubber wastewater treatment system. If not returned to the treatment system, collected pond water shall be treated in accordance with MPCA requirements at that time and discharged to the tailings basin or otherwise treated off site. Discharge of pond dewatering to the tailings basin may require a permit modification.

7.2 The Permittee shall submit for MPCA approval, at least 120 days prior to the closure of any scrubber solids pond at the plant, a plan to provide a clay or geosynthetic cap, or other method to minimize erosion and infiltration from the former pond. The plan shall conform to MPCA design criteria in effect at that time, and shall include provisions for perpetual maintenance. The Permittee shall implement the plan upon closure of the disposal pond.

Upon completion of the disposal pond closure project, a detailed description, including a plat, shall be recorded with the county register of deeds. The description shall include general types and location of wastes, depth of fill, and other information of interest to future land owners.

7.3 The Permittee shall submit for MPCA review and approval, plans and specifications, as well as any additional information required by the MPCA, for any additional scrubber solids settling/storage ponds. The scrubber pond(s) shall be designed in accordance with MPCA pond design criteria and include a dewatering system to accommodate dewatering of the pond contents. No construction shall begin until the Permittee has received written approval of plans and specifications for the construction from the MPCA.

Chapter 7. Total Facility Requirements

1. Sampling and Analyses

1.1 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minnesota Rules, part 7041.3200.

1.2 Volatile organics shall be analyzed using Minnesota Department of Health Method 465E or equivalent method.

1.3 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.

1.4 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Analyses of dissolved oxygen, pH, temperature and total residual chlorine do not need to be completed by a certified laboratory.

1.5 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit together designate the minimum required monitoring frequency.

1.6 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or other form for that reporting period.

1.7 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one (1) grab sample for permitted effluent parameters two (2) times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Where there is reason to believe a pollutant other than those limited in the permit is present, the Permittee shall sample for that pollutant. Appropriate sampling shall be determined in consultation with the MPCA.

2. Facility Closure

2.1 The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of operations described in this permit.

2.2 Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification. An application for permit modification shall be submitted to the MPCA for approval before the proposed change is implemented.

2.3 The MPCA may require the Permittee to establish financial assurance for closure, postclosure care and remedial action at the facility.

Chapter 7. Total Facility Requirements

2. Facility Closure

2.4 The Commissioner may require the Permittee to submit a Pollution Control Deactivation Plan for approval. The Permittee shall notify the Commissioner of any significant reduction or cessation of the operations described in the Facility Description. If a plan is required, the Commissioner will inform the Permittee in writing of this request, and will state the site-specific concerns that the plan shall address and the date by which the plan shall be submitted. The plan shall provide for the implementation, including continued maintenance if necessary, of best management practices and best available technology and shall assure compliance with all applicable laws and Agency regulations which apply to air quality, water quality, and the disposal of hazardous substances.

3. Reporting

3.1 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on a Discharge Monitoring Report (DMR) form or other report form provided by the MPCA.

3.2 The Permittee shall report ground water monitoring results on the Discharge Monitoring Report.

3.3 The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected", "undetected", "below detection limit" and "zero" are unacceptable reporting results, and are permit reporting violations.

3.4 A Discharge Monitoring Report (DMR) shall be submitted for each station even if no discharge occurred during the reporting period. The Permittee shall report 'No Discharge', 'No Flow' or 'No Materials Generated' on a DMR or other monitoring report form only if no discharge, flow or materials are generated during the entire reporting period. The schedule for reporting can be found on the Submittals Summary section of this permit.

3.5 Individual values for each sample and measurement must be reported on the Supplemental Report Form provided by the MPCA and submitted with the Discharge Monitoring Report (DMR).

3.6 The Permittee shall report the following information on the Discharge Monitoring Report (DMR):

a. any substantial changes in operational procedures;

b. activities which alter the nature or frequency of the discharge; and

c. material factors affecting compliance with the conditions of this permit.

3.7 The Permittee shall report monitoring results of bypass events on its Discharge Monitoring Report (DMR). If no bypass events occurred, check the "No Discharge" box on the DMR.

Chapter 7. Total Facility Requirements

3. Reporting

3.8 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 2.D)

3.9 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law. (Minnesota Rules, pt. 7001.1090, subp. 1.G)

3.10 The Permittee shall report noncompliance with the permit not reported under Minnesota Rules, part 7001.0150, subpart 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days of the discovery of the noncompliance, the Permittee shall submit the information listed in Minnesota Rules, part 7001.0150, subpart 3, item K within 30 days of the discovery of the noncompliance. (Minnesota Rules, pt. 7001.1090, subp. 1.H)

3.11 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth. (Minnesota Rules, pt. 7001.0150, subp. 3.L)

4. Records

4.1 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:

a. the exact place, date and time of the sample or measurement;

b. the date of analysis;

c. the name of the person who performed the sample collection, measurement, analysis, or calculation;

d. the analytical techniques, procedures and methods used; and,

e. the results of the analysis.

4.2 The Permittee shall keep the records required by this permit for at least three (3) years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA and/or during the course of an unresolved enforcement action. (Minnesota Rules, pt. 7001.0150, subp. 2.C.)

Chapter 7. Total Facility Requirements

4. Records

4.3 Except for data determined to be confidential according to Minnesota Statutes, ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minnesota Rules, pt. 7000.1300.

4.4 The Permittee shall, when requested by the commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.H.)

5. Compliance Responsibility

5.1 The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the agency and in compliance with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.E.)

6. Noncompliance

6.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both. (Minnesota Rules, pt. 7001.1090, subp. 1.B.; U.S.C. title 33, sect. 1319; Minn. Stat. sect. 115.071)

6.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:

a. take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.

b. notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five (5) days of discovery of the exceedance.

Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state. (Minnesota Rules, pt. 7001.0150, subp. 3. J, K)

Chapter 7. Total Facility Requirements

6. Noncompliance

6.3 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:

a. a description of the event including volume, duration, monitoring results and receiving waters;

b. the cause of the event;

c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;

d. the exact dates and times of the event; and

e. steps taken to reduce any adverse impact resulting from the event. (Minnesota Rules, pt. 7001.0150, subp. 3.K)

7. Upset Defense

7.1 In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:

a. the specific cause of the upset;

b. that the upset was unintentional;

c. that the upset resulted from factors beyond the control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;

d. that at the time of the upset the facility was being properly operated;

e. that the Permittee properly notified the commissioner of the upset in accordance with Minnesota Rules, part 7001.0150, subpart 3, items K and L; and

f. that the Permittee implemented the remedial measures required by Minnesota Rules, part 7001.0150, subpart 3, item J. (Minnesota Rules, pt. 7001.1090, subp. 1.L)

Chapter 7. Total Facility Requirements

8. Duty to Notify and Avoid Water Pollution

8.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five (5) gallons or less of petroleum. (Minnesota Statutes, section 115.061)

8.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge. Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.

8.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods. (Minnesota Statutes, section 115.061)

9. Anticipated Bypasses

9.1 The Permittee may allow a bypass to occur if the bypass will not cause the exceedance of an effluent limitation but only if the bypass is necessary for essential maintenance to assure efficient operation of the facility. The permittee shall submit notice of the need for the bypass at least ten days before the date of the bypass. (Minnesota Rules, pt. 7001.1090, subp. 1.J)

9.2 The notice of the need for a bypass shall include the following information:

a. The proposed date and estimated duration of the bypass.

b. The alternatives to bypassing.

c. The proposed measures to mitigate environmental harm caused by the bypass.

d. A proposal for bypass monitoring.

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9. Anticipated Bypasses

9.3 The Permittee shall not allow an anticipated bypass to occur that will cause an exceedance of an applicable effluent limitation unless the following conditions are met:

a. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. For the purposes of this paragraph, "severe property damage" means substantial damage to property of the Permittee or of others; damage to the wastewater treatment facilities that may cause them to become inoperable; or substantial and permanent loss of natural resources that can be reasonably expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.

b. There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.

c. The Permittee has notified the commissioner of the anticipated bypass and the commissioner has approved the bypass. The commissioner shall approve the bypass if the commissioner finds that the conditions set forth in Minnesota Statutes, part 7001.1090, subpart 1, items A and B are met. (Minnesota Rules, pt. 7001.1090, subp. 1.K)

10. Facilities Operation

10.1 The Permittee shall properly operate and maintain the systems used to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate process and laboratory controls, including appropriate quality assurance procedures. (Minnesota Rules, pt. 7001.0150, subp. 3.F)

10.2 The Permittee is responsible for insuring system reliability and shall install adequate backup or support systems to achieve permit compliance and prevent the discharge of untreated or inadequately treated waste. These systems may include alternative power sources, auxiliary treatment works and sufficient storage volume for untreated wastes. (Minnesota Rules, pt. 7001.0150, subp. 3.F)

10.3 The Permittee shall store, transport and dispose of biosolids, sediments, residual solids, filter backwash, screenings, oil, grease and other substances so that pollutants do not enter surface waters or ground waters of the state.

10.4 The Permittee's discharge shall not cause any nuisance conditions, acutely toxic conditions to aquatic life or other adverse impact on the receiving water.

10.5 The Permittee shall comply with all applicable water quality, air quality, solid waste and hazardous waste statutes and rules in the operation and maintenance of the facility.

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10. Facilities Operation

10.6 The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality.

10.7 In-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

11. Chemical Additives

11.1 The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit. "Chemical additive" includes processing reagents, water treatment products, cooling water additives, freeze conditioning agents, chemical dust suppressants, detergents and solvent cleaners used for equipment and maintenance cleaning, among other materials.

11.2 The Permittee shall request approval for an increased or new use of a chemical additive 60 days before the proposed increased or new use.

11.3 This written request shall include the following information for the proposed additive:

a. Material Safety Data Sheet.

b. A complete product use and instruction label.

c. The commercial and chemical names of all ingredients.

d. Aquatic toxicity and human health or mammalian toxicity data including a carcinogenic, mutagenic or teratogenic concern or rating.

e. Environmental fate information including, but not limited to, persistence, half-life, intermediate breakdown products, and bioaccumulation data.

f. The proposed method, concentration, and average and maximum rates of use.

g. If applicable, the number of cycles before wastewater bleedoff.

h. If applicable, the ratio of makeup flow to discharge flow.

11.4 This permit may be modified to restrict the use or discharge of a chemical additive.

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12. Inspection And Entry

12.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Act and Minnesota Statutes, section 115.04, and upon presentation of proper credentials, to:

a. enter the premises where the facility is located or activity conducted;

b. review and copy the records required by this permit;

c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;

d. sample or monitor to determine compliance; and

e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations. (Minnesota Rules, pt. 7001.0150, subp. 3.I)

13. Permit Modifications

13.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee must submit the permit modification application fee in accordance with Minnesota Rules, part 7002.0250 with the application.

13.2 The following changes may require a permit modification:

a. Increased use or new use of a chemical additive.

b. Changes in the characteristics, concentrations or frequency of the wastewater flow, which may include new significant industrial discharges to a sanitary sewage treatment system, significant changes in existing industrial discharges to a sanitary system, significant rerouting of wastewater for reuse or for land disposal or significant changes in the levels of indicator characteristics.

c. Changes in biosolids or residual solids use and disposal practices.

13.3 The procedures as set forth in Minnesota Rules, pt. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:

a. Modifications solely as to ownership or control as described in Minnesota Rules, pt. 7001.0190, subp. 2.

b. Minor modifications as described in Minnesota Rules, pt. 7001.0190, subp. 3.

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13. Permit Modifications

13.4 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.N)

14. Construction

14.1 Construction related to facility modifications, additions or expansions that is not expressly authorized by this permit requires a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minnesota Rules, ch. 4410, no construction shall begin until a negative declaration has been issued and all approvals have been received or implemented. (Minnesota Rules, pt. 7001.0030)

14.2 No construction shall begin until the Permittee has received written approval of plans and specifications for the construction from the MPCA.

15. Permit Modification, Suspension or Revocation

15.1 This permit may be modified, suspended, or revoked for the following reasons:

a. A violation of permit requirements.

b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.

c. A change in a condition that alters the discharge.

d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.

e. Failure to pay permit fees.

f. Other reasons listed in Minnesota Rules, pt. 7001.0170.

16. Permit Reissuance

16.1 The Permittee shall submit an application for permit reissuance at least 180 days before permit expiration. (Minnesota Rules, pt. 7001.0040, subp. 3)

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16. Permit Reissuance

16.2 If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines one of the following:

a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit.

b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit.

c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies. (Minnesota Rules, pt. 7001.0160)

16.3 If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

17. Property Rights

17.1 The permit does not convey a property right or an exclusive privilege. (Minnesota Rules, pt. 7001.0150, subp. 3.C)

18. Liability Exemption

18.1 In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736. (Minnesota Rules, pt. 7001.0150, subp. 3.O)

18.2 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota Statutes. (Minnesota Rules, pt. 7001.0150, subp. 3.D)

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19. Liabilities

19.1 The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.A)

19.2 The issuance of a permit does not prevent the future adoption by the MPCA of pollution control rules, standards or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 3.B)

20. Severability

20.1 The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

21. Incorporation By Reference

21.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42, Minnesota Rules, pt. 7001.0150, subp. 3, and pt. 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.

Submittals and Actions Checklist
US Steel - Minntac Tailings Basin Area

This checklist is intended to assist you in tracking the reporting requirements of your permit. However, it is only an aid. PLEASE CONSULT YOUR PERMIT FOR THE EXACT REQUIREMENTS.

Please note: This checklist only details submittal requirements for the next five years. DMRs, Annual Reports, and many other submittals are required even after the expiration date of this permit, and continue to be due until the permit is either reissued or terminated.

Submit DMRs to:
Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

Submit other WQ reports to:
Attention: Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

MPCA Staff Contacts:
For DMR-related questions:
Belinda Nicholas at (651)757-2613
For other questions:
John Thomas at (218)302-6616

2011

☐ Submit DMR (due before Feb 14)

Other Submittals

☐ Upon completion of construction of the Seepage Collection and Return System (SC&R) and commencement of its operation, all water formerly reporting to SD002 will be captured and pumped back into the tailings basin clear pool, effectively eliminating the discharge through the currently permitted outfall.

The Permittee shall submit notice of initiation of operation of the SC&R system within 10 days of initiation of operation as required by the Schedule of Compliance dated November 14, 2007 and as amended on February 25, 2010.